TC-355

Prepared by GUYSBUYS

Avilla - IN - 2009 and

NOT FOR RESALE!!

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SONY®

SERVICE MANUAL

Prepared by: GUYSBUYS - Avilla - IN - 2009

TC-355

Specifications

Power Requirements:	AC 117V 50/60 Hz, 30W
Tape Speed:	7½, 3¾ and 1⅞ ips (19, 9.5 and 4.8 cm/s) instantaneous switching with automatic equalization changes
Recording System:	4 track stereophonic or monophonic
Reels:	7 inches (18 cm) or smaller
Frequency Response:	20~22,000 Hz at 7½ ips (19 cm/s) 20~17,000 Hz at 3¾ ips (9.5 cm/s) 20~ 9,000 Hz at 1⅞ ips (4.8 cm/s)
Flutter and Wow:	Less than 0.09% at 7½ ips (19 cm/s) 0.12% at 3¾ ips (9.5 cm/s) 0.17% at 1⅞ ips (4.8 cm/s)
Signal-to-Noise Ratio:	Better than 52 dB (at peak record level)
Harmonic Distortion:	Less than 1.6% at normal record level
Bias Frequency:	Approx. 160 KHz
Inputs:	Microphone Inputs ..... 2 impedance 250Ω~1KΩ −72 dBs (0.19 mV) Auxiliary Inputs ..... 2 impedance 100KΩ −22 dBs (0.06V)
Outputs:	Line Outputs..... 2 impedance 100KΩ 0 dBs (0.775V) Binaural Monitor Output ..... 1 impedance 8Ω −28 dBs (0.031V)
Recording Time: (with 1,800′ tape)	4-track stereophonic 1 hr 30 min at 7½ ips (19 cm/s) 3 hrs at 3¾ ips (9.5 cm/s) 6 hrs at 1⅞ ips (4.8 cm/s) 4-track monophonic 3 hrs at 7½ ips (19 cm/s) 6 hrs at 3¾ ips (9.5 cm/s) 12 hrs at 1⅞ ips (4.8 cm/s)
Optional Accessories:	Microphone F-96MTL, F-98MTL Stereo Head Set DR-3A, DR-4A Microphone Mixer MX-6S
Transistors:	27 pcs
Diodes:	5 pcs
Record Head:	RP30-2902
Playback Head:	PP30-2902A
Erase Head:	EF18-2902H2
Motor:	1C-624H1
Dimensions:	15⅜ (W)×7⅛ (H)×14″ (D) (386×180×355 mm)
Weight:	22 Lbs (10 Kg)

Technical Feature

General Description

SONY Model TC-355 is a high quality 4 Track Stereo Taperecorder Deck, which can be operated in vertical position, designed for users who have desired the most faithful recording and reproduction as a successor of SONY Model TC-350.

Solid State Amplifier and High Frequency Bias Oscillator

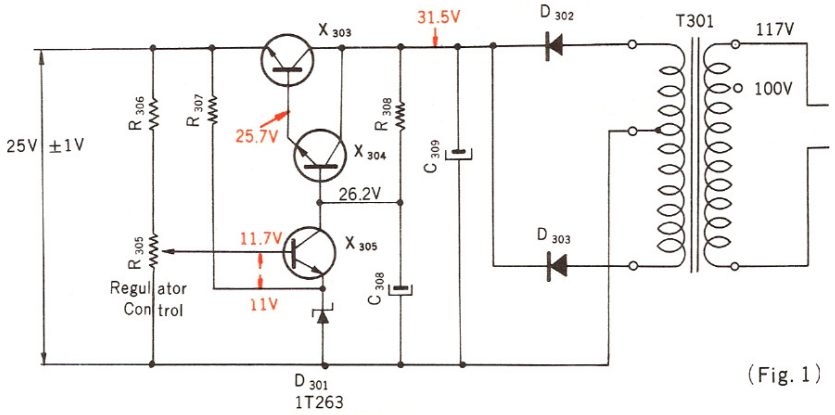
All Silicon transistors, which are used for Record Pre-Amplifier and Playback Pre-Amplifier installed in the unit, are newly developed [Advanced Passivated Mesa Silicon Transistor] in order to get extremely Low Noise and Low Harmonic Distortion with bias frequency as high as approximately 160 KHz.

Voltage Regulator Circuit

This unit is equipped with Voltage Regulator Circuit which serves to keep Electrical Characteristics (Noise Figure, Harmonic Distortion, etc.) constant against variation of power Source Voltage.

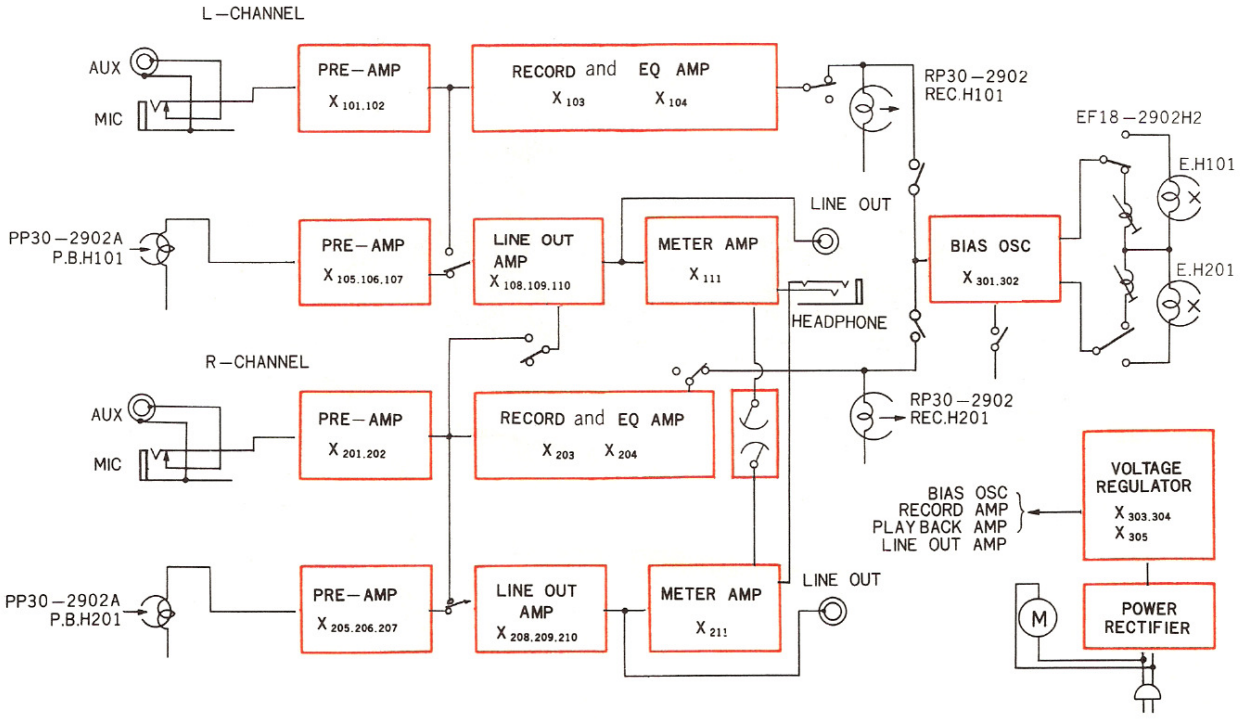
The circuit acts as follows:

	X_{305} Base Bias	X_{305} Collector Current	X_{304} Base Bias	X_{304} Collector Current	X_{303} Base Bias	X_{303} C-E Resistance	X_{303} Emitter Voltage
Power Source Voltage increases	Increases	Increases	Decreases	Decreases	Decreases	Increases	Decreases
Power Source Voltage decreases	Decreases	Decreases	Increases	Increases	Increases	Decreases	Increases



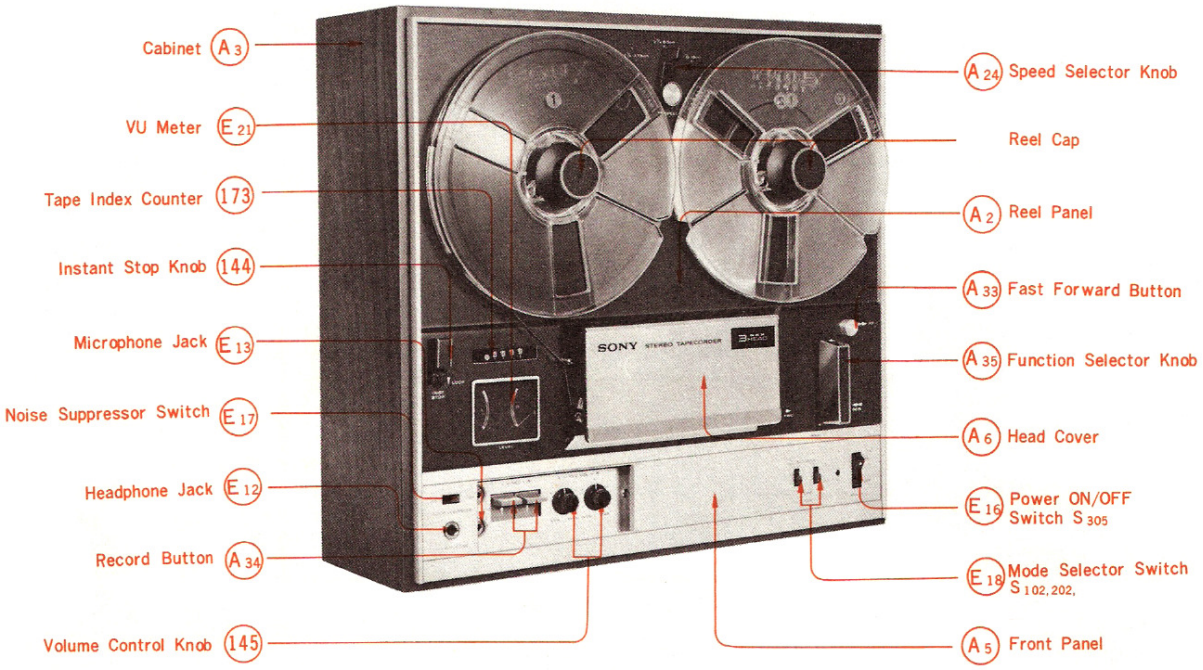
(Fig. 1)

Block Diagram



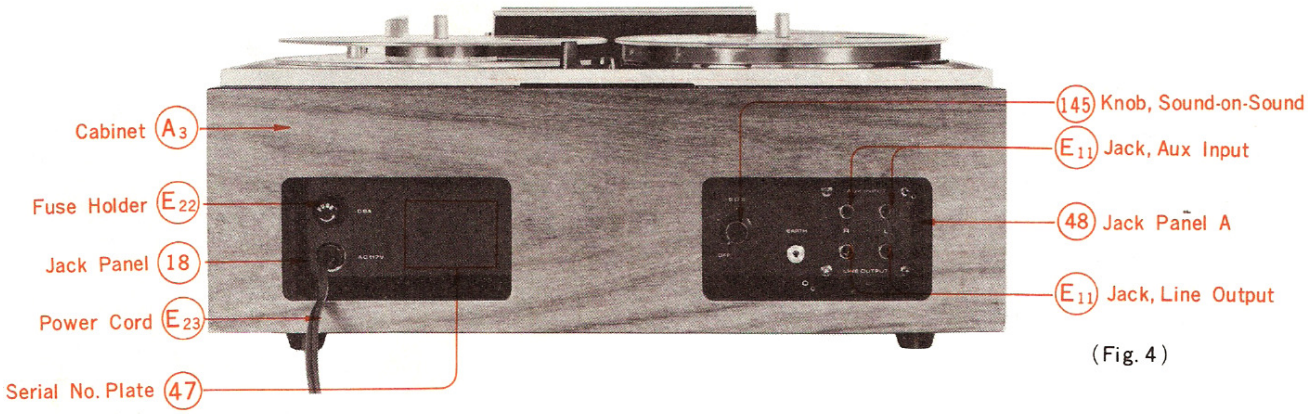
(Fig. 2)

Cabinet Top View



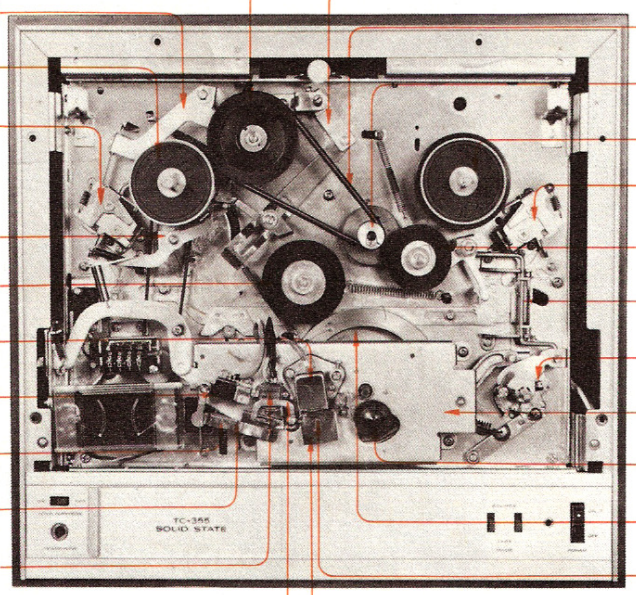
(Fig. 3)

Cabinet Back View



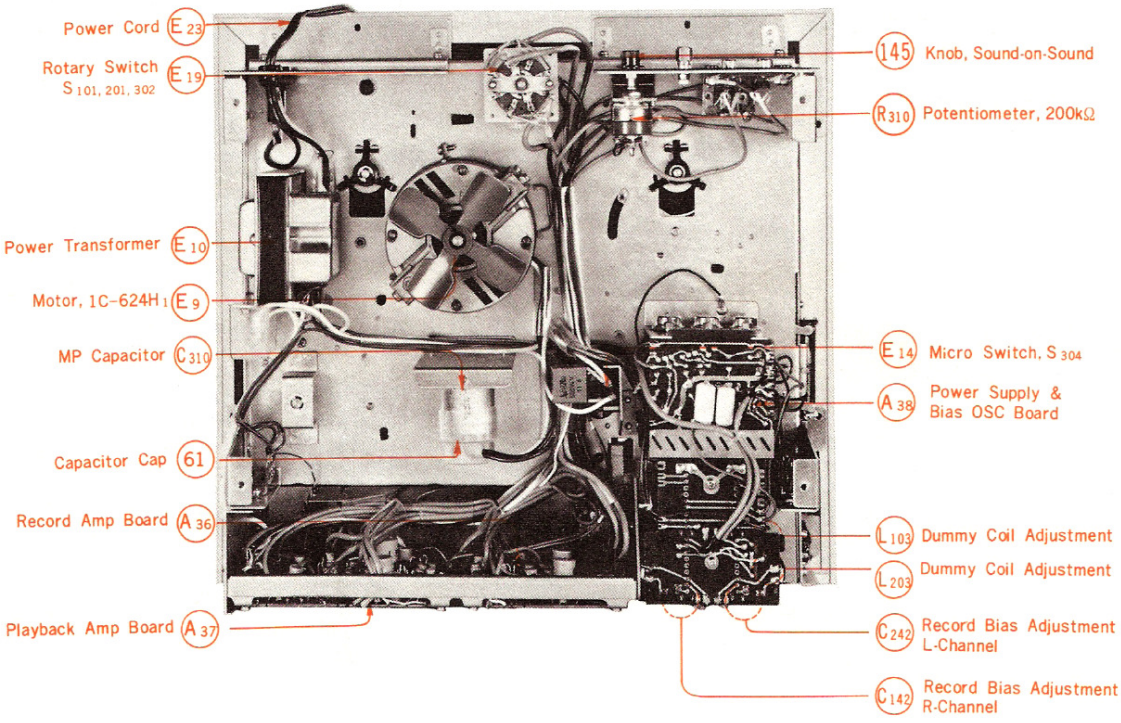
(Fig. 4)

Chassis Top View


Rewind Idler A 8
Lever, Rewind Idler A 30
Feed Reel Table A 26
Brake, Feed Reel A 21
Brake Instant Stop A 31
Capstan Idler A 11
Playback Head PP30-2902A E 7
Erase Head EF18-2902H2 E 8
Pad, Erase Head 177
Hinge, Erase & Record Head 44
Record Head RP30-2902 E 6
A 15 Lever, Speed Selector
88 Belt, Rewind Idler
43 Motor Pulley
A 25 Take-up Reel Table
A 20 Brake, Take-up Reel
A 27 Take-up Idler
32 Crank
A 28 Function Selector Cam
A 9 Head Deck
120 Pinch Roller
A 13 Capstan W/Flywheel
175 Pad, P·B Head
138 Shield plate, P·B Head
4 Shifter, Head Pad

(Fig. 5)

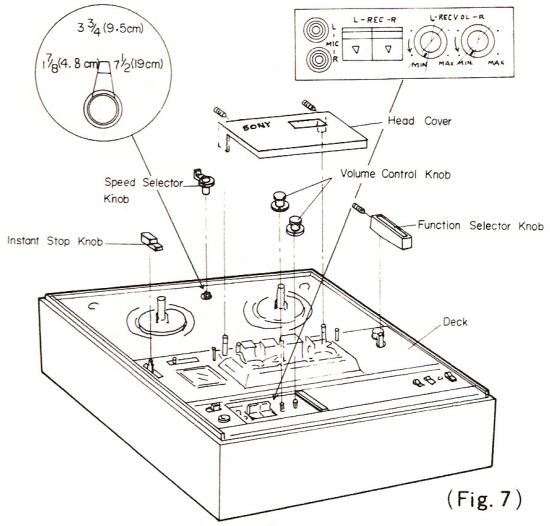
Chassis Bottom View


Power Cord E 23
Rotary Switch S 101, 201, 302 E 19
Power Transformer E 10
Motor, 1C-624H 1 E 9
MP Capacitor C 310
Capacitor Cap 61
Record Amp Board A 36
Playback Amp Board A 37
145 Knob, Sound-on-Sound
R 310 Potentiometer, 200kΩ
E 14 Micro Switch, S 304
A 38 Power Supply & Bias OSC Board
L 103 Dummy Coil Adjustment
L 203 Dummy Coil Adjustment
C 242 Record Bias Adjustment L-Channel
C 142 Record Bias Adjustment R-Channel

(Fig. 6)

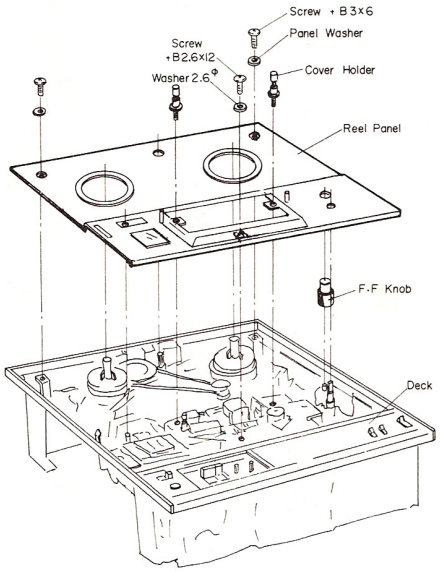
Method of Disassembling the Set

Removal of Head Cover and Knobs



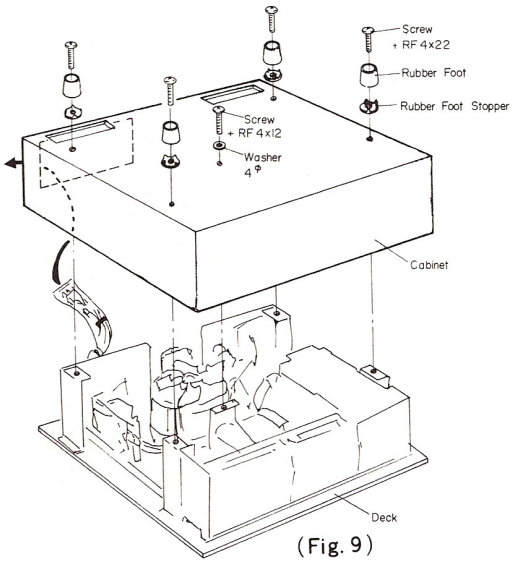
(Fig. 7)

Removal of Reel Panel



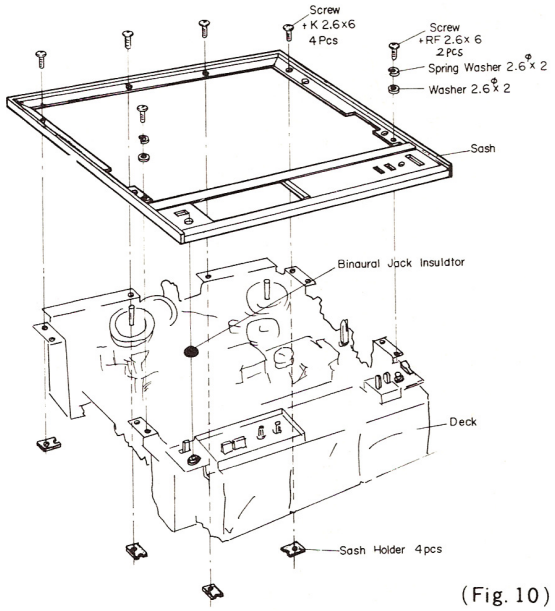
(Fig. 8)

Removal of Chassis



(Fig. 9)

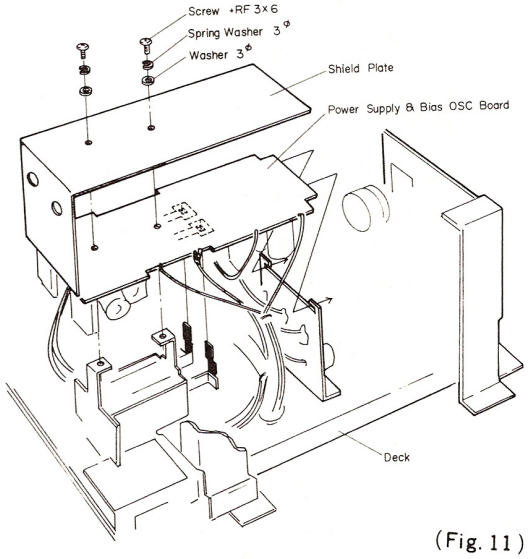
Removal of Sash



(Fig. 10)

Removal of Mounted Circuit Board

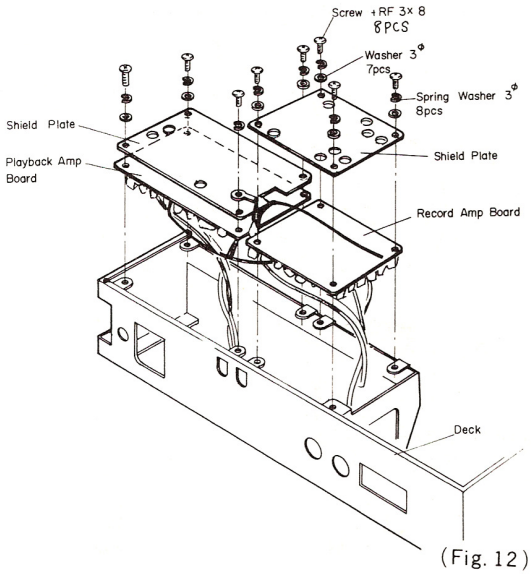
Power Supply and OSC Section



(Fig. 11)

Removal of Mounted Circuit Board

Record and Playback Amplifier Section

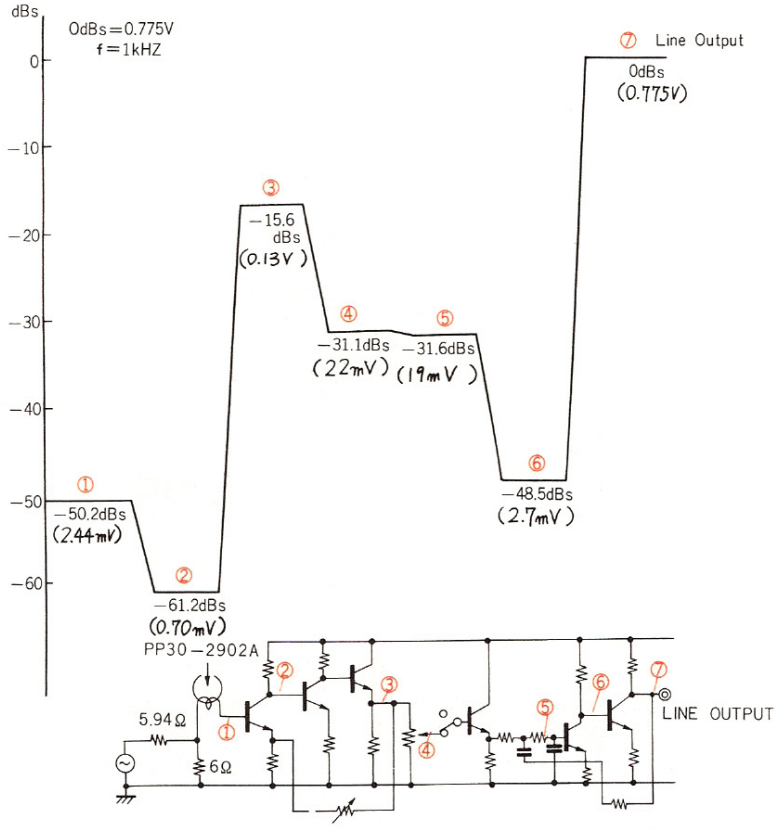


(Fig. 12)

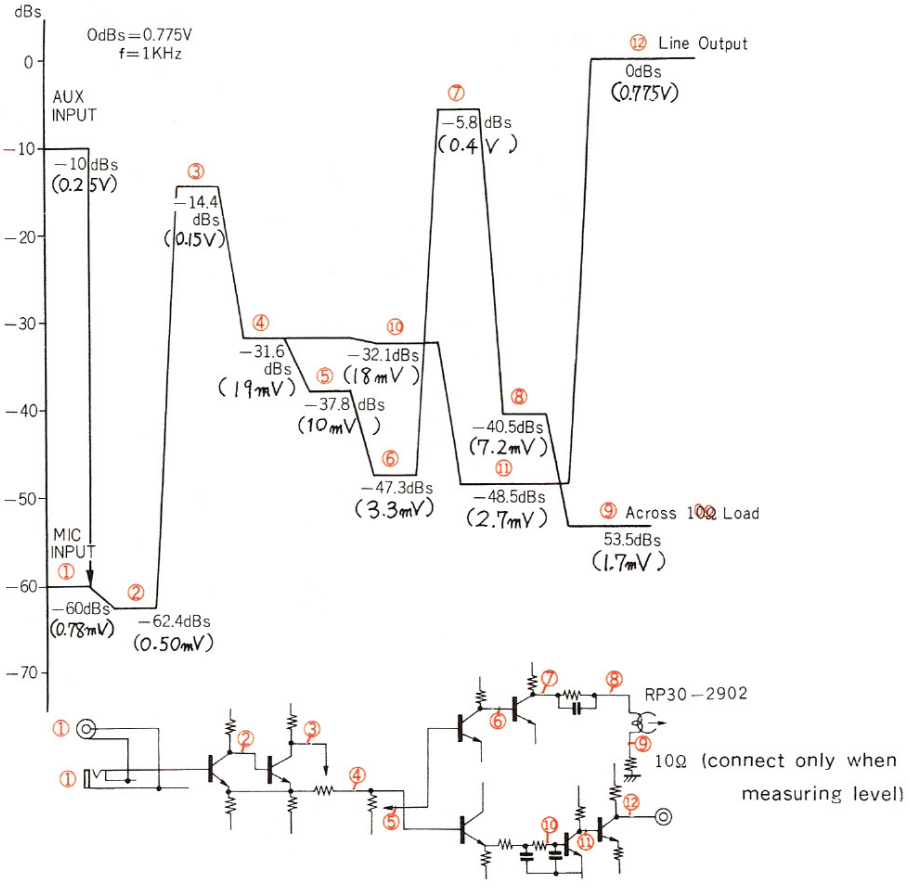
TC-355

Level Diagram

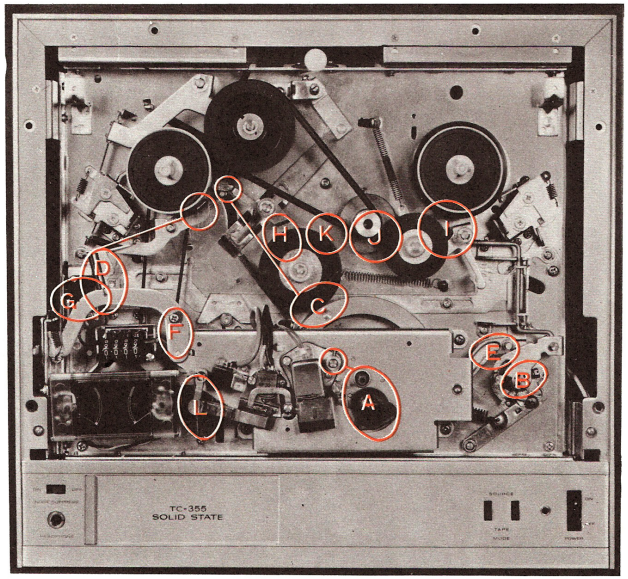
Playback



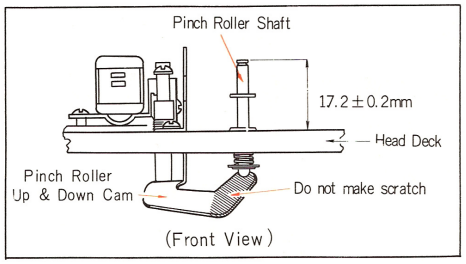
Recording



Mechanical Adjustment



A Pinch Roller Shaft Height Adjustment

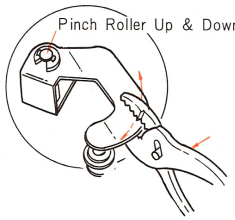


① When adjusting roughly

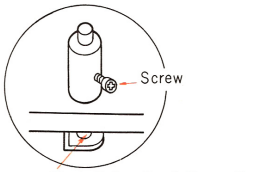
Adjust by bending with pliers as shown below.

② When adjusting accurately

Adjust to obtain 17.2±0.2mm by loosening Screw and moving Shaft up and down.
After fastening Screw, apply Lock Paint.



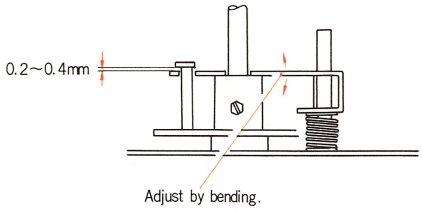
(Bottom View)



(Top View)

B FAST FORWARD Lever Position Adjustment

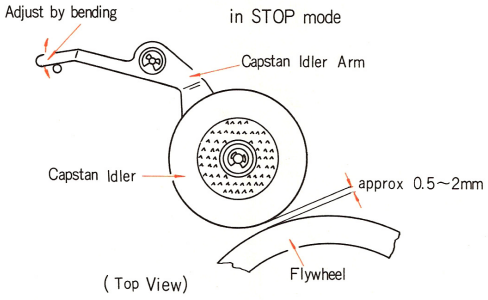
in FAST FORWARD mode



(Side View)

C Capstan Idler Position Adjustment

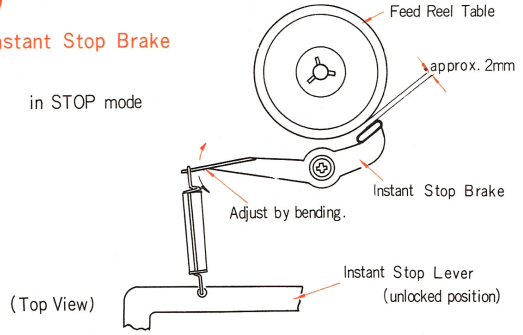
in STOP mode



(Top View)

D Instant Stop Brake

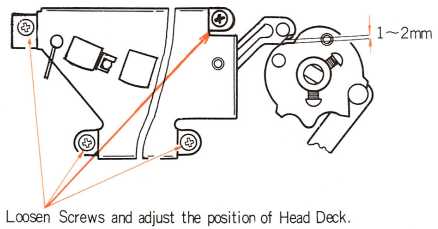
in STOP mode



(Top View)

E Head Deck Position Adjustment

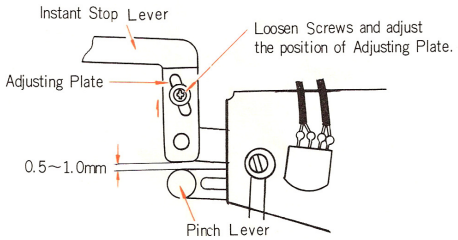
in FORWARD mode



(Top View)

F Instant Stop Lever Adjustment

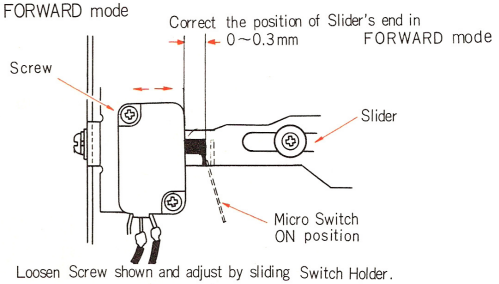
in FORWARD mode



(Top View)

G Bias ON/OFF Switch Position Adjustment

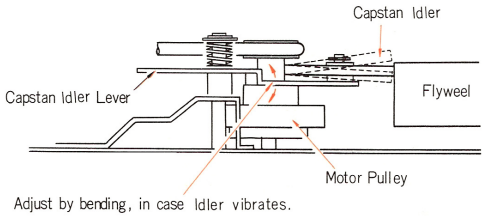
in FORWARD mode


Correct the position of Slider's end in FORWARD mode
0~0.3mm
Screw
Slider
Micro Switch ON position
Loosen Screw shown and adjust by sliding Switch Holder.

(Top View)

H Capstan Idler Slip Check

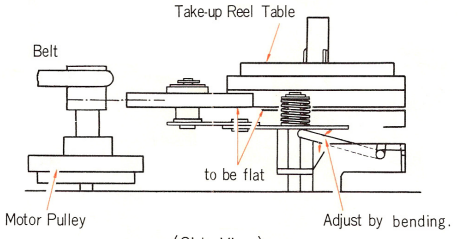
in FORWARD mode



(Side View)

I Take-up Idler Height Adjustment

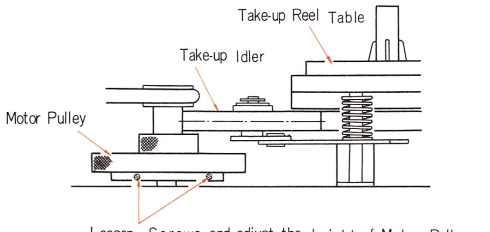
in FAST FORWARD mode



(Side View)

J Take-up Idler Position Adjustment

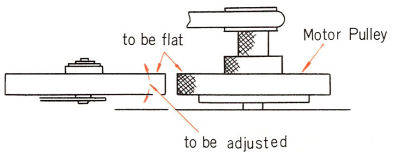
in FORWARD mode



(Side View)

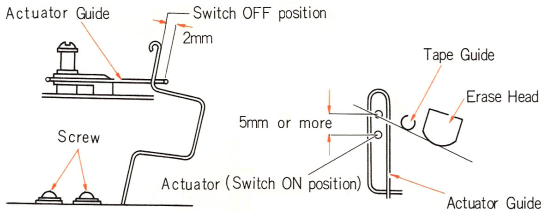
K Capstan Idler Position

in STOP mode



(Side View)

L Automatic Shut-OFF Switch Adjustment



Loosen Screws and adjust by sliding Micro Switch Holder

(Side View) (Top View)

NOTE

In case the following parts are soiled with oil or dust, clean them with Alcohol.

- Feed Reel Table Rim
- Take-up Reel Table Rim
- Reel Spindle
- Take-up Idler
- Capstan Idler
- Rewind Idler
- Rewind Belt
- Motor pulley
- Flywheel Rim
- Capstan
- Pinch Roller
- Tape Index Counter
- Heads

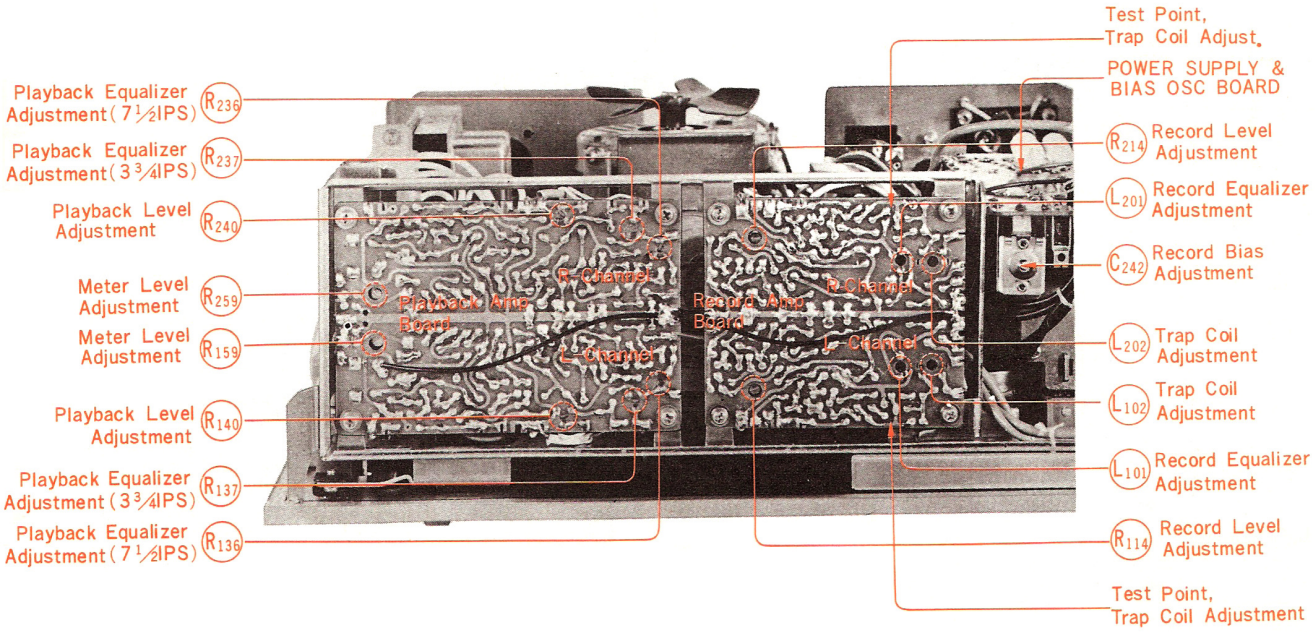
Electrical Adjustment

Item	Signal Source	Output Connection	Mode	Adjust	Remarks
Voltage Regulator Adjustment	———	V. T. V. M. across Emitter and Ground of Transistor X_{303}	STOP	R_{305}: 100 KΩ (B)	Adjust the Adjustable Resistor to obtain +25V ±1V on V. T. V. M.
Playback Head Azimuth Alignment	10KHz, 1st Section of SONY Alignment Tape Type: N-19-F2	V. T. V. M. and 100 KΩ Resistor in parallel to LINE OUT	PLAYBACK	Azimuth Alignment Screw See Fig. 14	Adjust to obtain maximum reading on V. T. V. M.
Meter Level Adjustment	700Hz, 2nd Section of SONY Alignment Tape Type: N-19-F2	V. T. V. M. and 100KΩ Resistor in parallel to LINE OUT	PLAYBACK	L-CH: R_{159} 5 KΩ (B) R-CH: R_{259} 5 KΩ (B)	1. Adjust Adjustable Resistors (R_{140} & R_{240}) to obtain 0 dBs (0.775V) on V. T. V. M. 2. Adjust Adjustable Resistors (R_{159} & R_{259}) so that Level Meters indicate the boundary between the red zone and the white zone.
Playback Equalizer Adjustment (1) 7½ ips (19 cm/sec)	SONY Alignment Tape Type: N-19-F2	V. T. V. M. and 100KΩ Resistor in parallel to LINE OUT	PLAYBACK	L-CH: R_{136} 4.7 KΩ (B) R-CH: R_{236} 4.7 KΩ (B)	Deviation against level at 700 Hz of 3rd Section Tape Section: 4th 10 KHz; 5th 7.5 KHz; 6th 100 Hz; 7th 50 Hz L-CH: 0±2 dB; 0±2 dB; +4.5±2 dB; +4.0±2 dB R-CH: +5.0±2 dB; +6.5±2 dB Caution: After the adjustment, repeat the Meter Level Adjustment.
Playback Equalizer Adjustment (2) 3¾ ips (9.5 cm/sec)	SONY Alignment Tape Type: J-9-F2	V. T. V. M. and 100KΩ Resistor in parallel to LINE OUT	PLAYBACK	L-CH: R_{137} 4.7 KΩ (B) R-CH: R_{237} 4.7 KΩ (B)	Deviation against the level at 500 Hz of 3rd Section Tape Section: 4th 6 KHz; 6th 3.5 KHz; 7th 100 Hz; 8th 50 Hz L-CH: 0±2 dB; 0±2 dB; +2±2 dB; +4±2 dB L-CH: +2.5±2 dB; +5±2 dB
Trap Coil Adjustment	———	V. T. V. M. and 100KΩ Resistor in parallel to Test Point and Ground See Fig. 13	RECORD	L-CH: L_{102} 1.8 mH R-CH: L_{202} 1.8 mH	Adjust to obtain minimum reading on V. T. V. M.
Record Head Height Adjustment	1 KHz, −60 dBs (0.78 mV) to MIC INPUT	V. T. V. M. and 100KΩ Resistor in parallel to LINE OUT	RECORD and set the Monitor Switch to TAPE POSITION	Height Alignment Screw See Fig. 14	1. Turn the Height Alignment Screw to obtain maximum reading on V.T.V.M. and also turn the Swing Alignment Screw and the Azimuth Alignment Screw to obtain maximum reading on V.T.V.M. 2. Repeating Step 1, Adjust the Alignment Screws to obtain maximum reading on V.T.V.M.
Record Head Azimuth Adjustment	15 KHz, −90 dBs (23μV) to MIC INPUT	V. T. V. M. and 100KΩ Resistor in parallel to LINE OUT	RECORD and set the Monitor Switch to TAPE POSITION	Azimuth Alignment Screw See Fig. 14	Adjust to obtain maximum reading on V.T.V.M.
Recording Bias Adjustment	1 KHz, −60 dBs (0.78 mV) to MIC INPUT	V. T. V. M. and 100KΩ Resistor in parallel to LINE OUT	RECORD and set the Monitor Switch to TAPE POSITION	L-CH: C_{142} 30~200 pF R-CH: C_{242} 30~200 pF	1. Turn the Trimmer Capacitor counter-clockwise fully. 2. Turn the Trimmer Capacitor clockwise slowly. 3. The V.T.V.M. reading will go up, reaching a maximum and then falling again. Continue to turn the Trimmer Capacitor untill the V.T.V.M. reads 0.5 dB below from the maximum value.
Recording Level Adjustment	1 KHz, −60 dBs (0.78 mV) to MIC INPUT	V. T. V. M. and 100KΩ Resistor in parallel to LINE OUT	RECORD and set the Monitor Switch to TAPE POSITION	L-CH: R_{114} 5 KΩ (B) R-CH: R_{214} 5 KΩ (B)	1. Set the Monitor Switch (S_{102} & S_{202}) to the Source Position. 2. Feed the Signal to MIC INPUT and turn the Record Volume Controls (R_{113} & R_{213}) clockwise so that Level Meters indicate the boundary between the red zone and the white zone. 3. Record the signal on a blank Tape. 4. Set the Monitor Switch (S_{102} & S_{202}) to the Tape Position and playback the signal recorded in the Step 3. 5. Adjust the Adjustable Resistors (R_{114} & R_{214}) to obtain 0 dBs (0.775V) on V.T.V.M.
Recording Equalizer Adjustment	1 KHz, −90 dBs, (23μV) to MIC INPUT	V. T. V. M. and 100KΩ Resistor in parallel to LINE OUT	RECORD and set the Monitor Switch to TAPE POSITION	L-CH: L_{101} 1.8/1.45 mH R-CH: L_{201} 1.8/1.45 mH	1. Read Line Out Level on V.T.V.M. 2. Feed a 20 KHz, −90 dBs (23μV) to MIC INPUT and record it. 3. Playback a signal recorded in Step 2, and adjust the Equalizer Coil (L_{101} & L_{201}) to obtain just the same level comparing with Step 1. 〔V.T.V.M. indicates approx. 0 dBs (0.775V)〕
Dummy Coil Adjustment	5 KHz, −90 dBs (23μV) to MIC INPUT	V. T. V. M. and 100KΩ Resistor in parallel to LINE OUT	RECORD and the set Monitor Switch to TAPE POSITION at 1⅞ ips(4.8 cm/s) speed.	L-CH: L_{103} 1 mH R-CH: L_{203} 1 mH	1. Record the signal with STEREO and playback it. 2. Record the signal only LEFT (RIGHT) Channel and playback it and adjust the Dummy Coil L_{103} (L_{203}) to obtain just the same level comparing with Step 1.

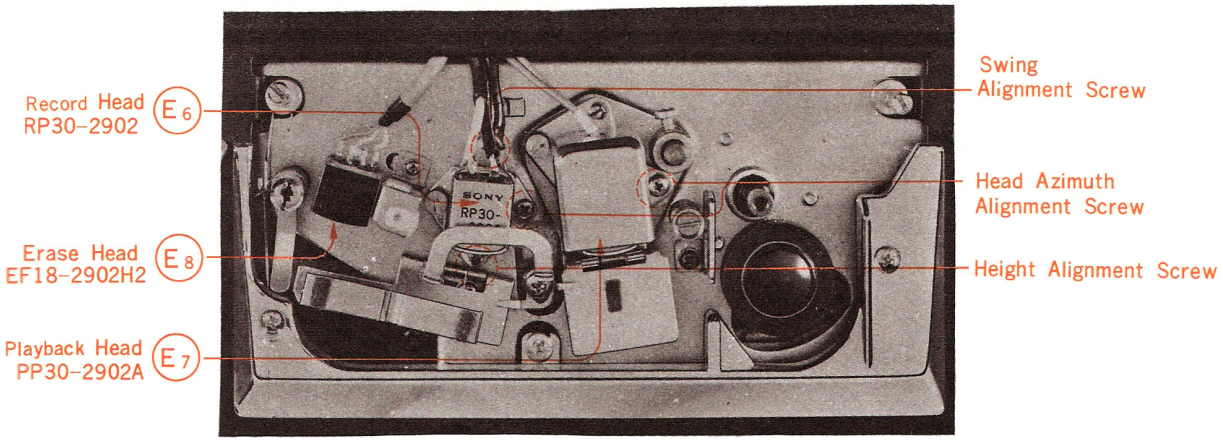
NOTE:

1. Before adjustments, clean and demagnetize the Erase Head, Record Head and Playback Head.
2. The adjustments should be performed in the tape speed of 7½ ips (19 cm/sec), unless otherwise specified.
3. The Sound-on-Sound Switch (S_{301}) and Noise Suppressor Switch (S_{103} & S_{203}) should be set in the OFF Position.
4. The following test equipment is to be provided for these adjustments.
   (1) Audio Generator (2) Attenuator (600 ohms) (3) V.T.V.M. (4) 100KΩ Resistor (5) SONY Alignment Tape Type: N-19-F2 & J-9-F2 (6) Blank Tape
5. After adjustments, apply Lock Paint to the adjusted points.
6. Bias Voltage across Head shall be read with the following values on V. T. V. M.
   Record Head approx: 11~21 volts
   Erase Head approx: 155~215 volts

Adjustment Position



(Fig. 13)

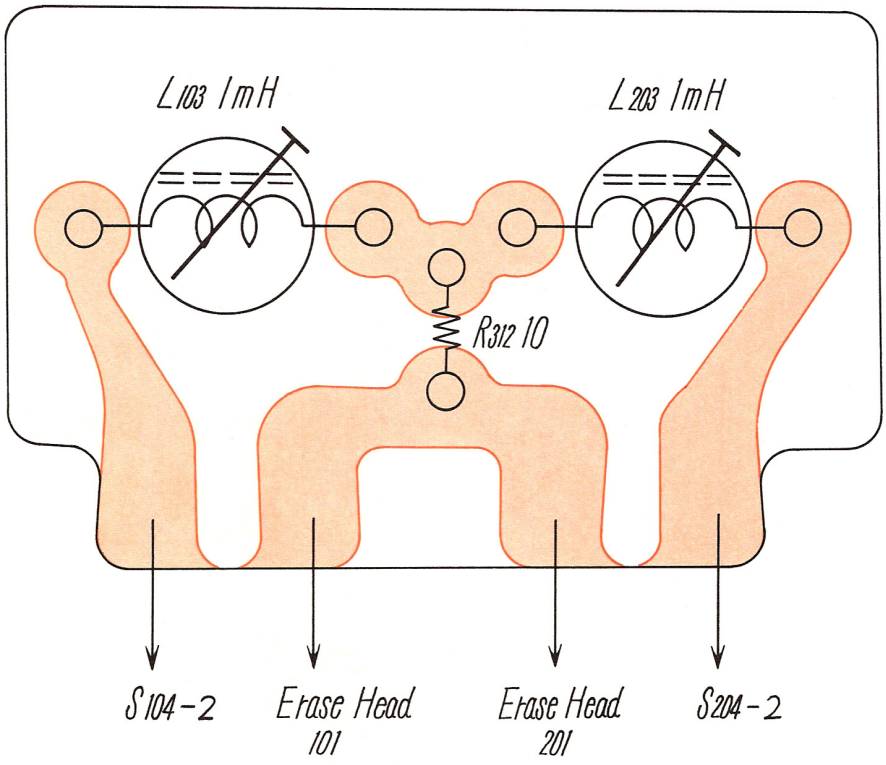


(Fig. 14)

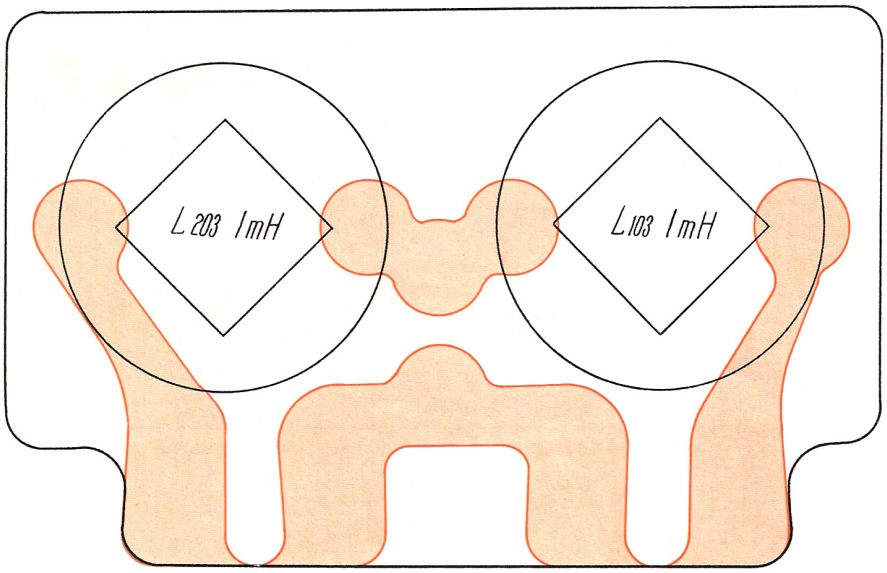
Mounting Diagram

Sub Board Section

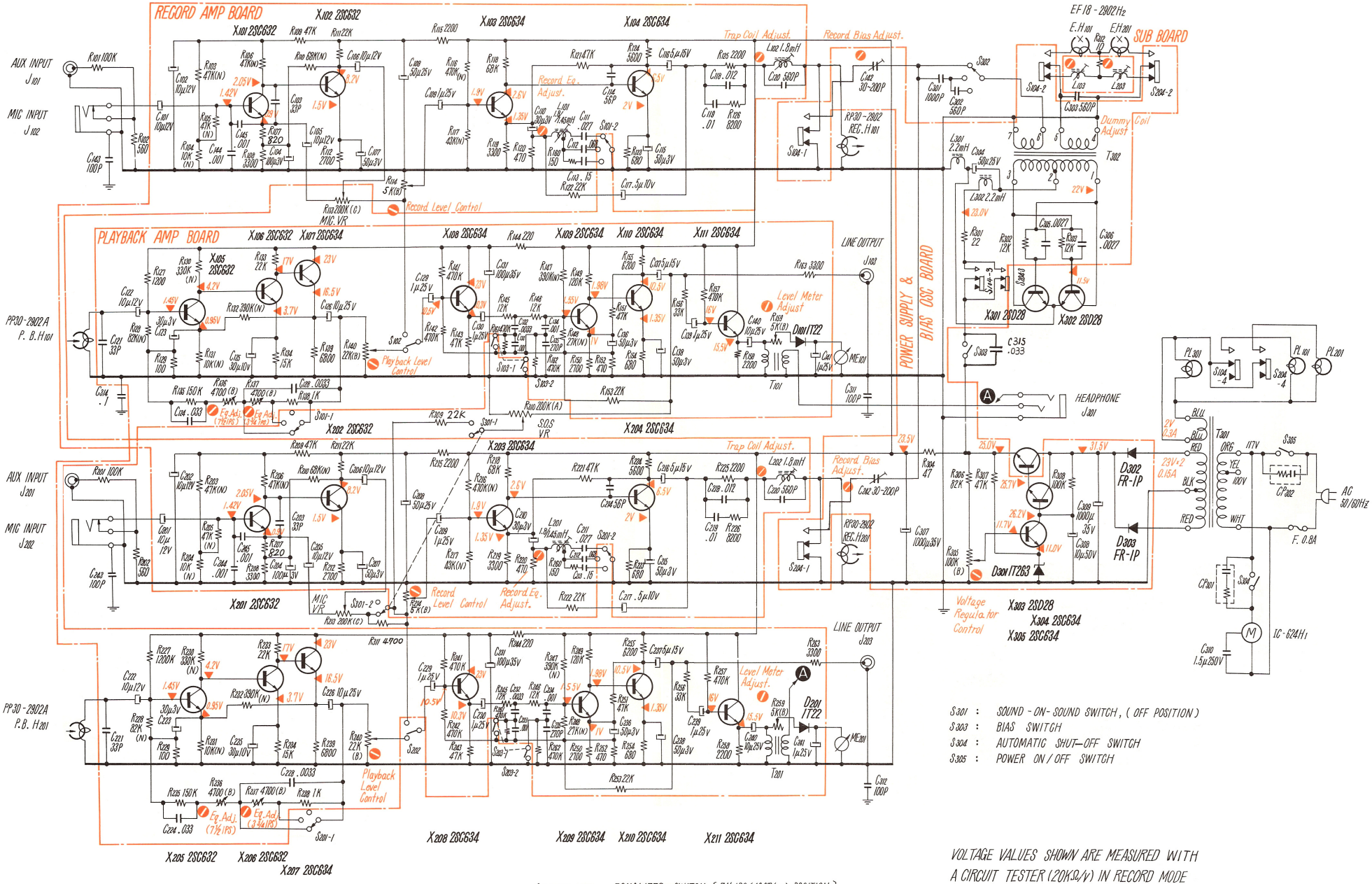
—Conductor Side—



—Component Side—



Circuit Schematic



S101 201 302 : EQUALIZER SWITCH, [7½IPS (19cm/sec) POSITION]
S102 202 : MODE SWITCH, (TAPE POSITION)
S103 203 : NOISE SUPPRESS SWITCH, (OFF POSITION)
S104 204 : RECORD SWITCH, (OFF POSITION)

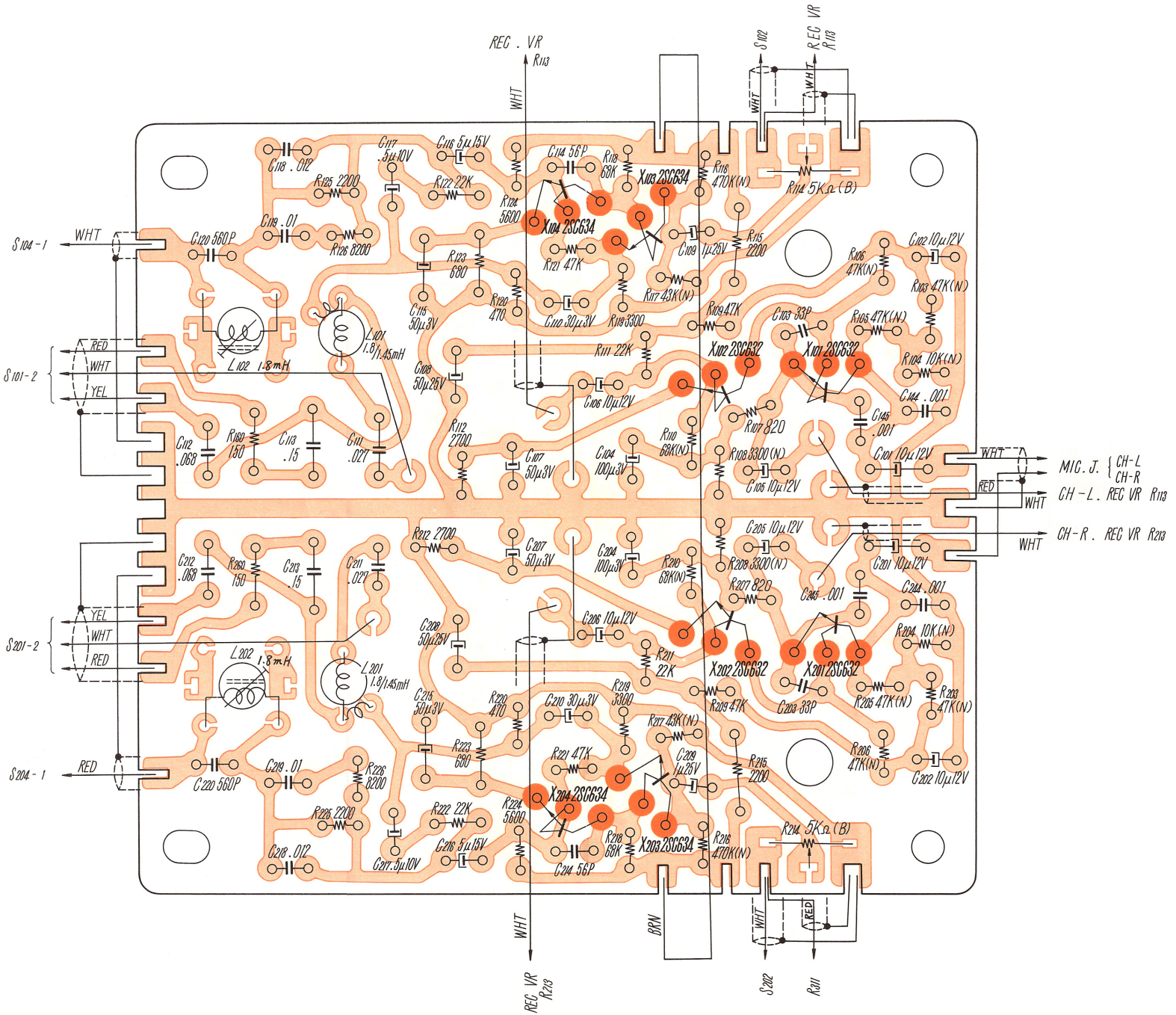
S301 : SOUND-ON-SOUND SWITCH, (OFF POSITION)
S303 : BIAS SWITCH
S304 : AUTOMATIC SHUT-OFF SWITCH
S305 : POWER ON/OFF SWITCH

VOLTAGE VALUES SHOWN ARE MEASURED WITH A CIRCUIT TESTER (20KΩ/V) IN RECORD MODE WITH NO SIGNAL INPUT AT 7½ IPS (19cm/sec)

Mounting Diagram

Record Amplifier Board Section

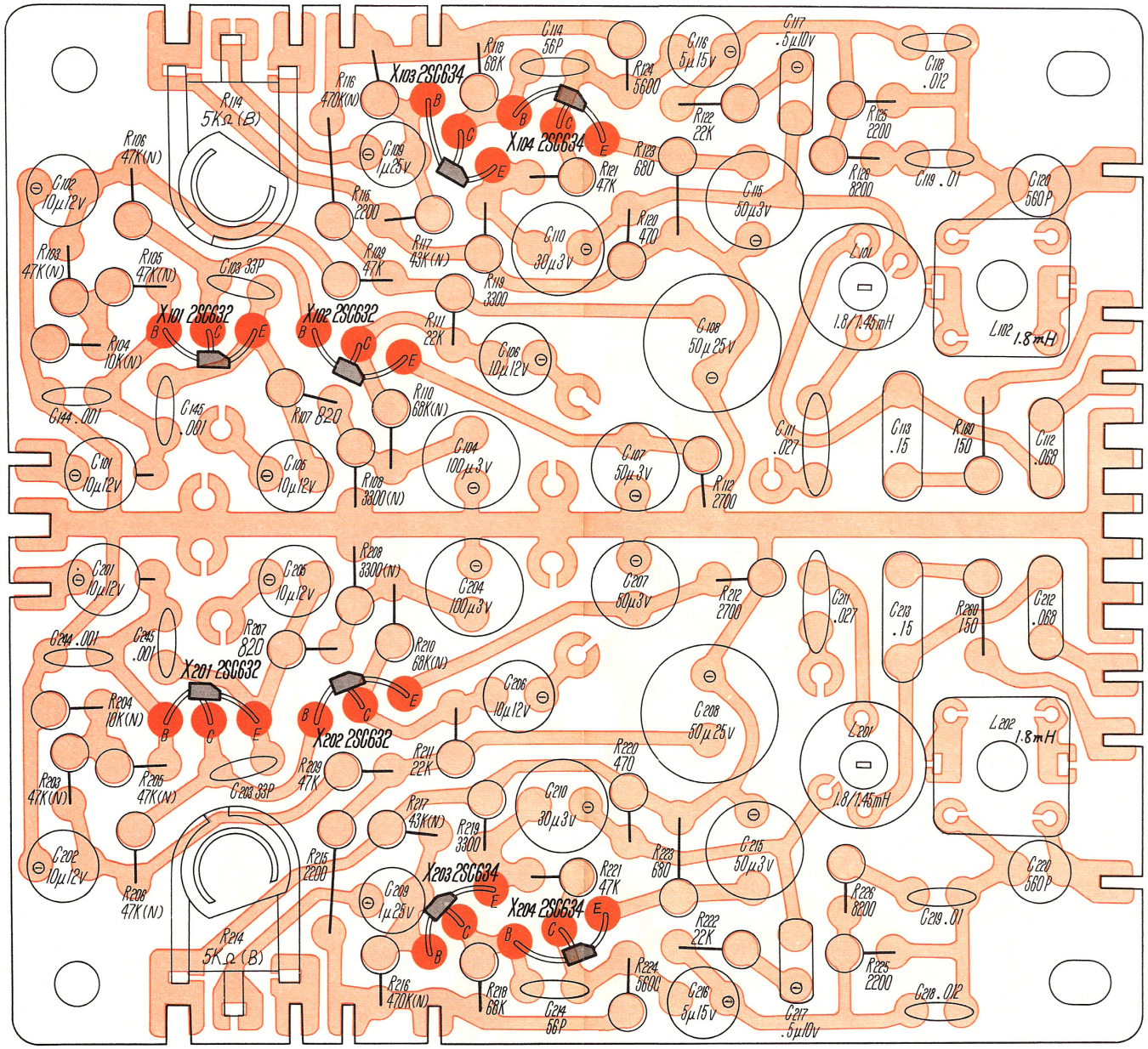
—Conductor Side—



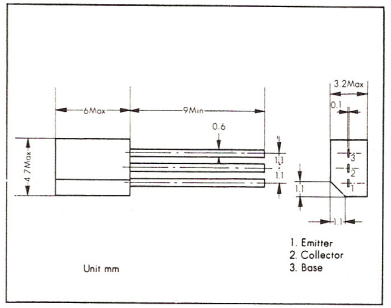
Mounting Diagram

Record Amplifier Board Section

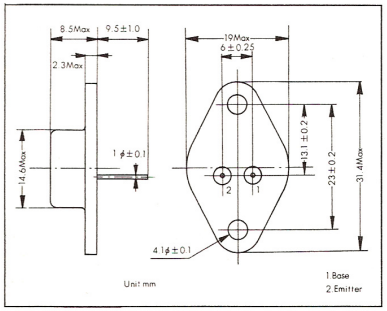
—Component Side—



2SC63 □ Transistor



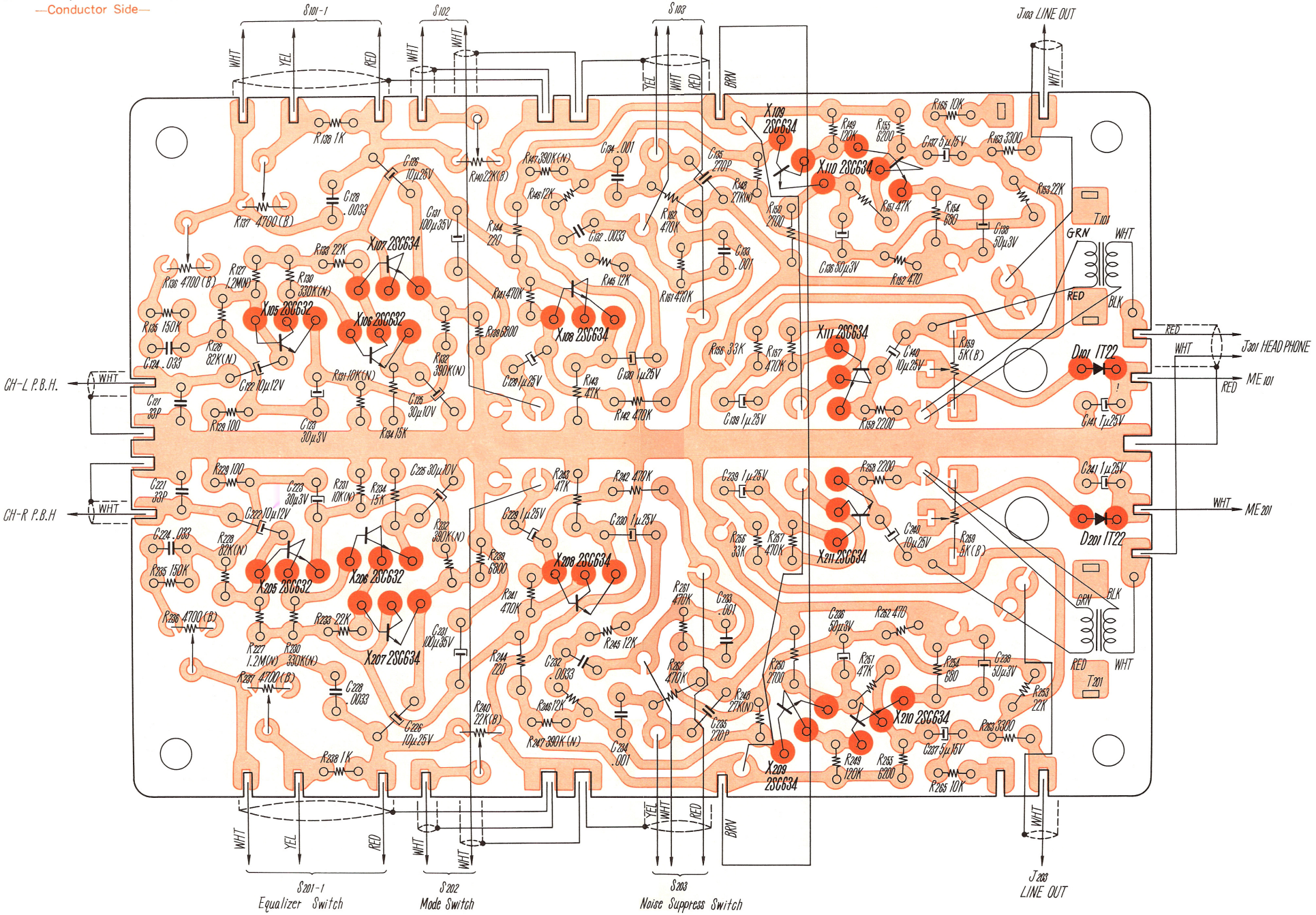
2SD28 Transistor



Mounting Diagram

Playback Amplifier Board Section

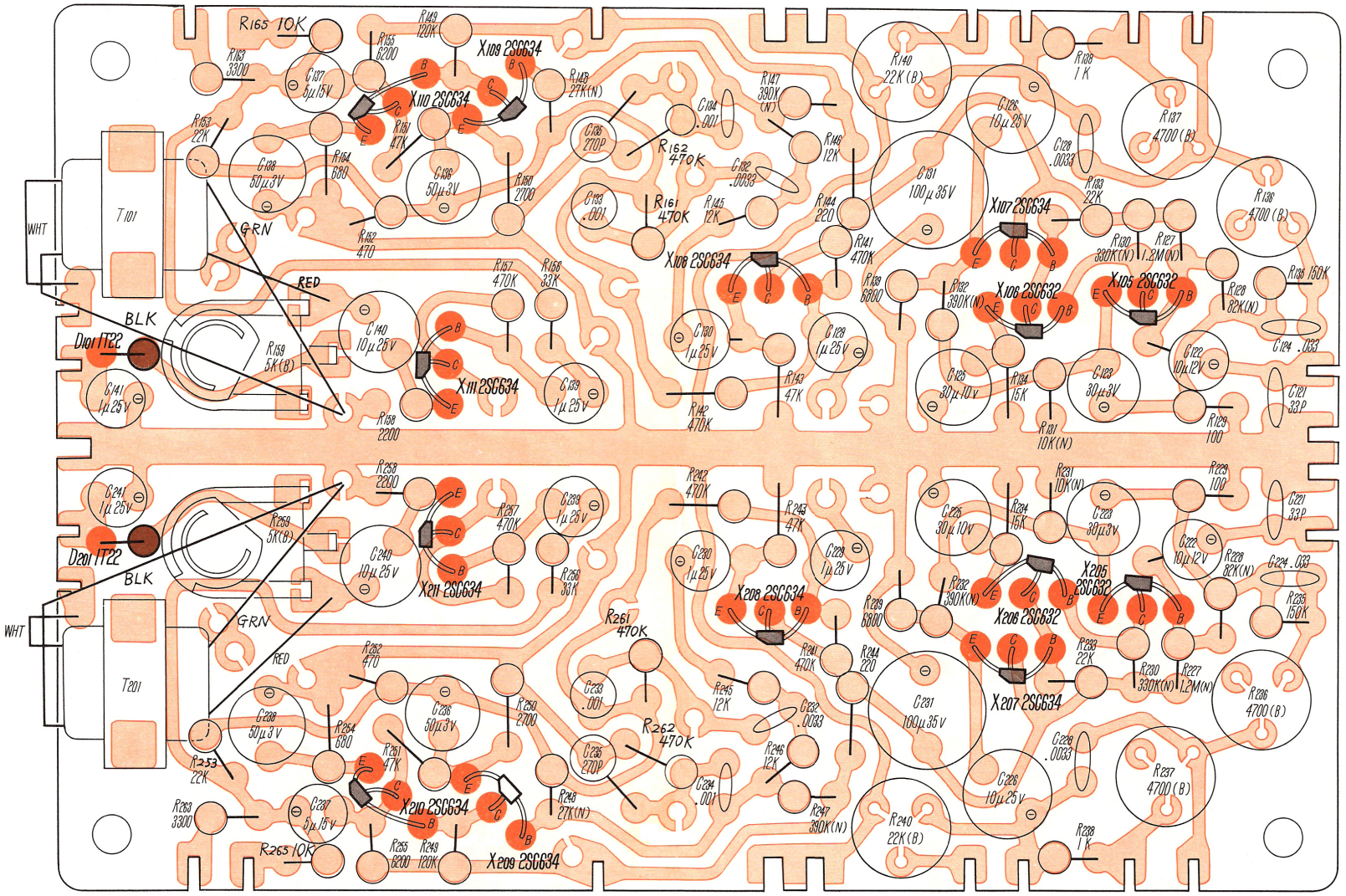
—Conductor Side—



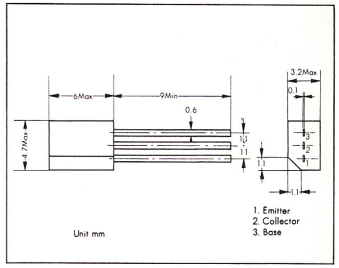
Mounting Diagram

Playback Amplifier Board Section

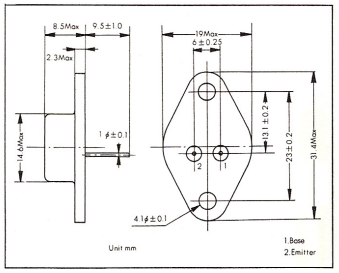
—Component Side—



2SC63 ⬚ Transistor



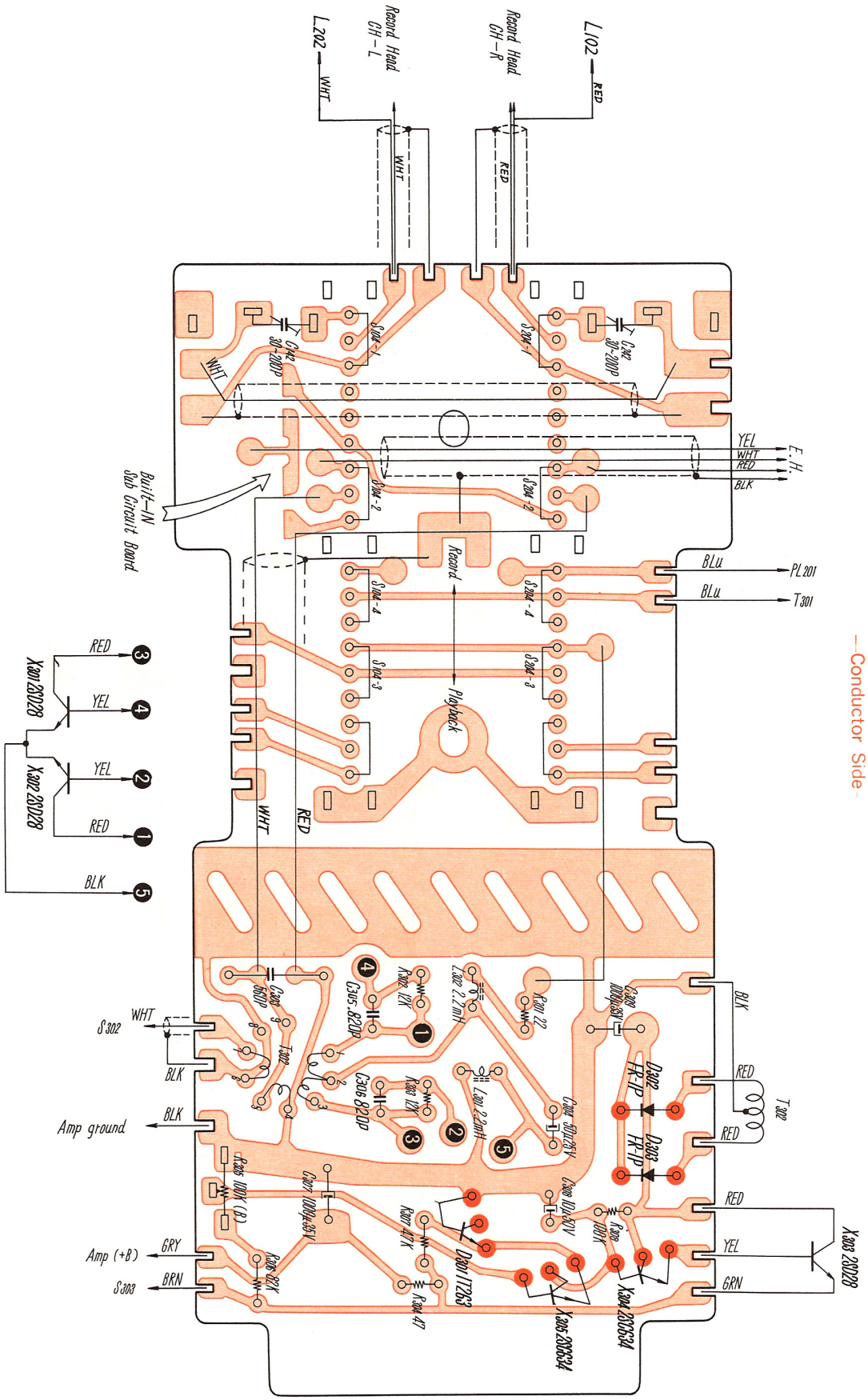
2SD28 Transistor



Mounting Diagram

Power Supply & Bias OSC Section

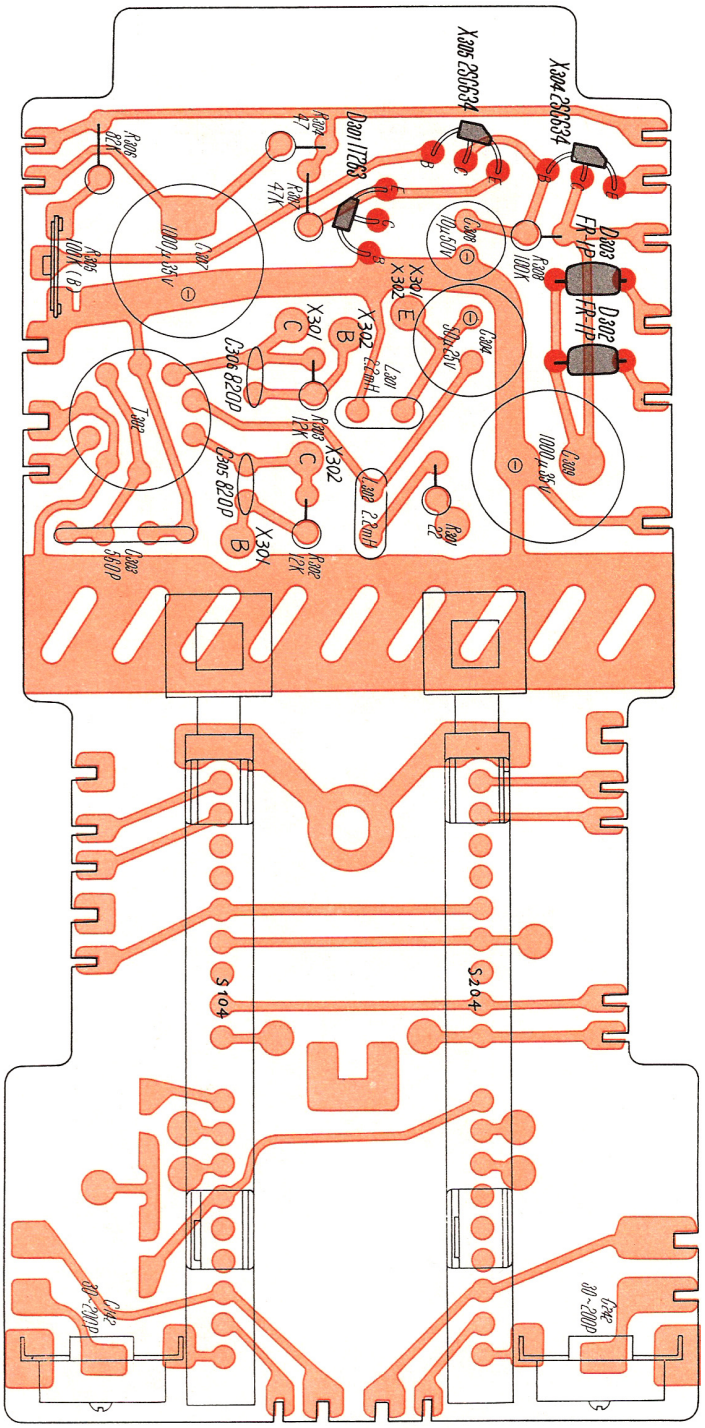
—Conductor Side—



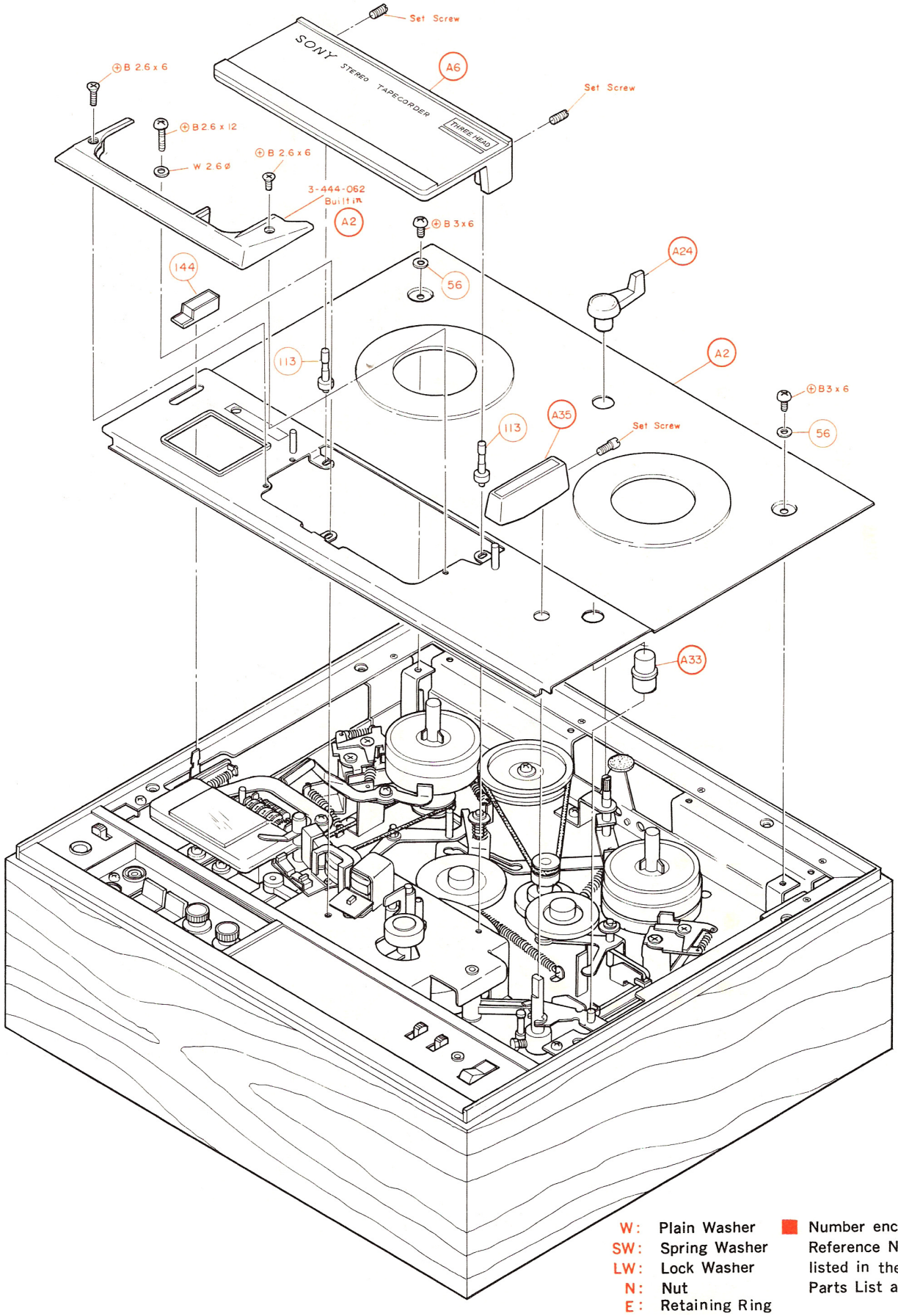
Mounting Diagram

Power Supply & Bias OSC Section

—Component Side—



Exploded Diagram
Cabinet—Top View

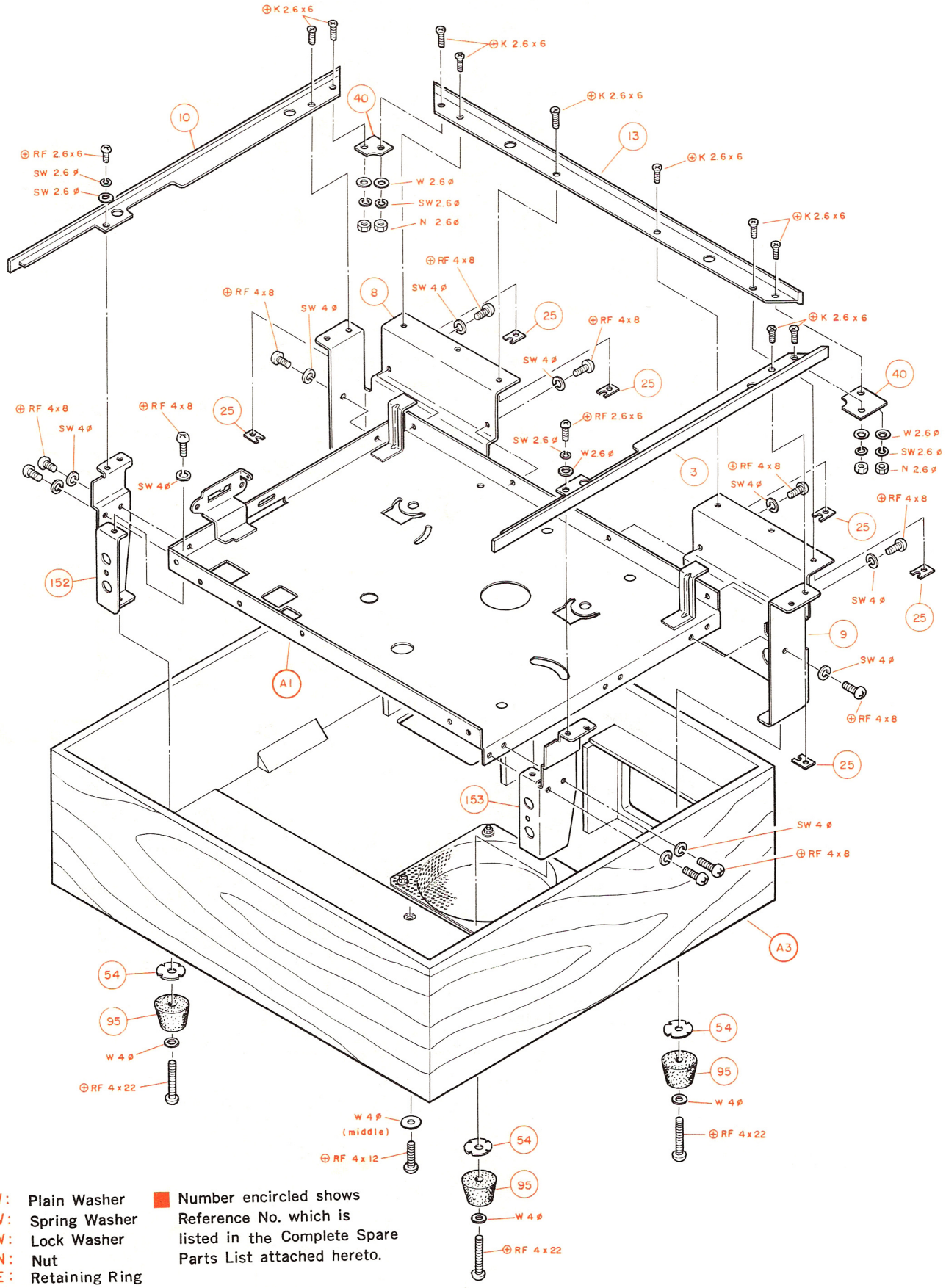


W: Plain Washer
SW: Spring Washer
LW: Lock Washer
N: Nut
E: Retaining Ring

■ Number encircled shows Reference No. which is listed in the Complete Spare Parts List attached hereto.

Exploded Diagram

Chassis Assembly —Top View

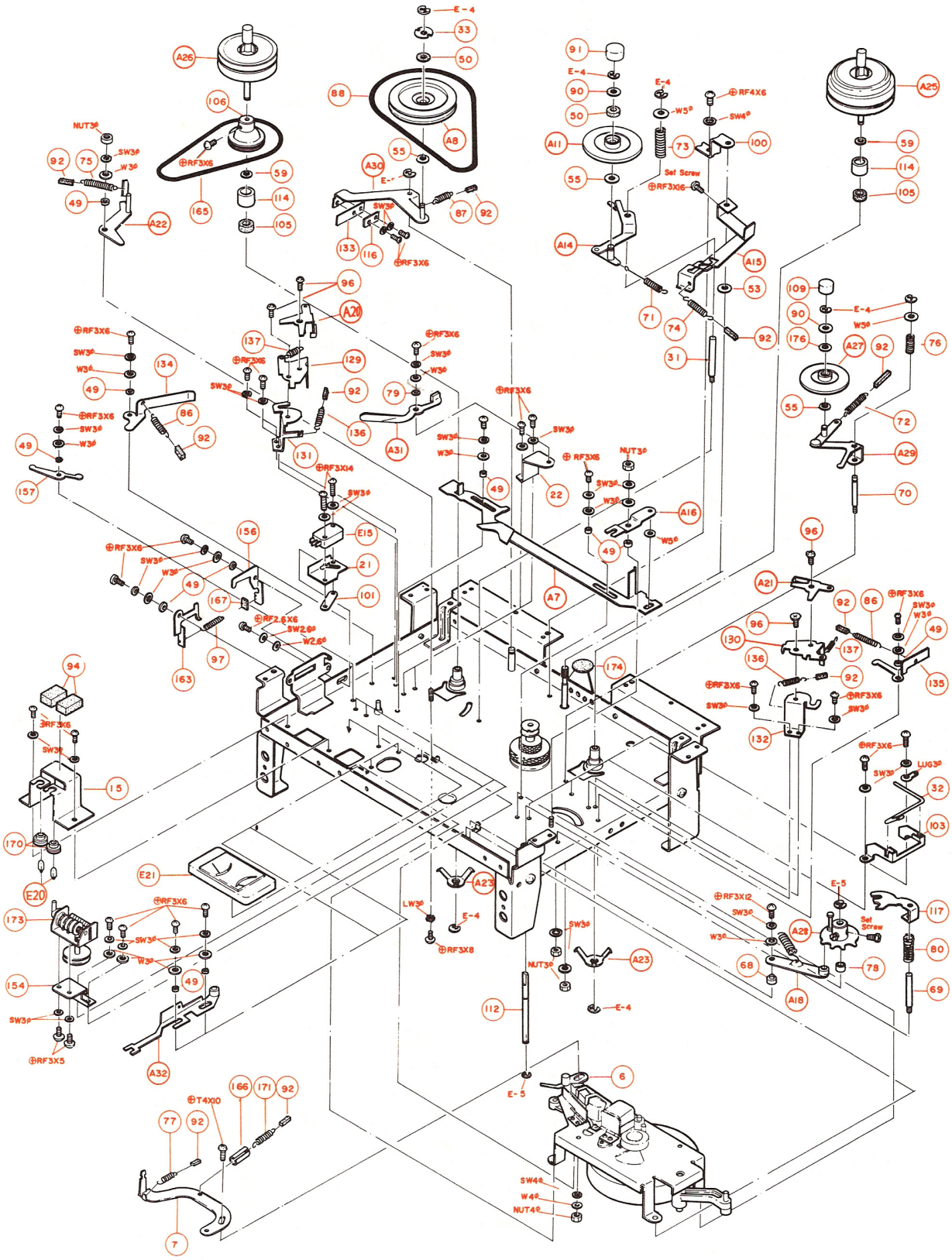


W: Plain Washer
SW: Spring Washer
LW: Lock Washer
N: Nut
E: Retaining Ring

■ Number encircled shows Reference No. which is listed in the Complete Spare Parts List attached hereto.

Exploded Diagram

Chassis—Top View

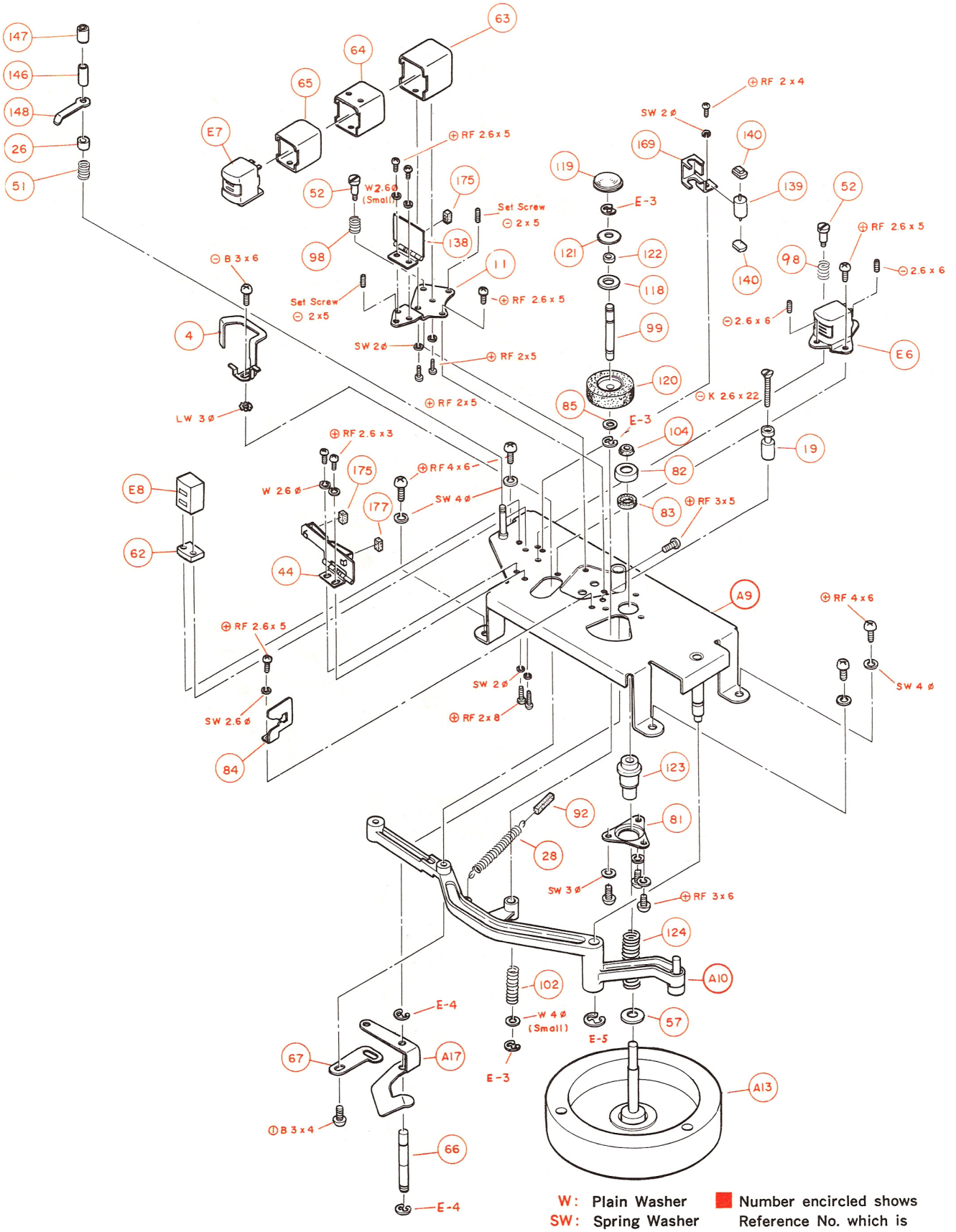


W: Plain Washer
SW: Spring Washer
LW: Lock Washer
N: Nut
E: Retaining Ring

■ Number encircled shows Reference No. which is listed in the Complete Spare Parts List attached hereto.

Exploded Diagram

Head Deck—Top View

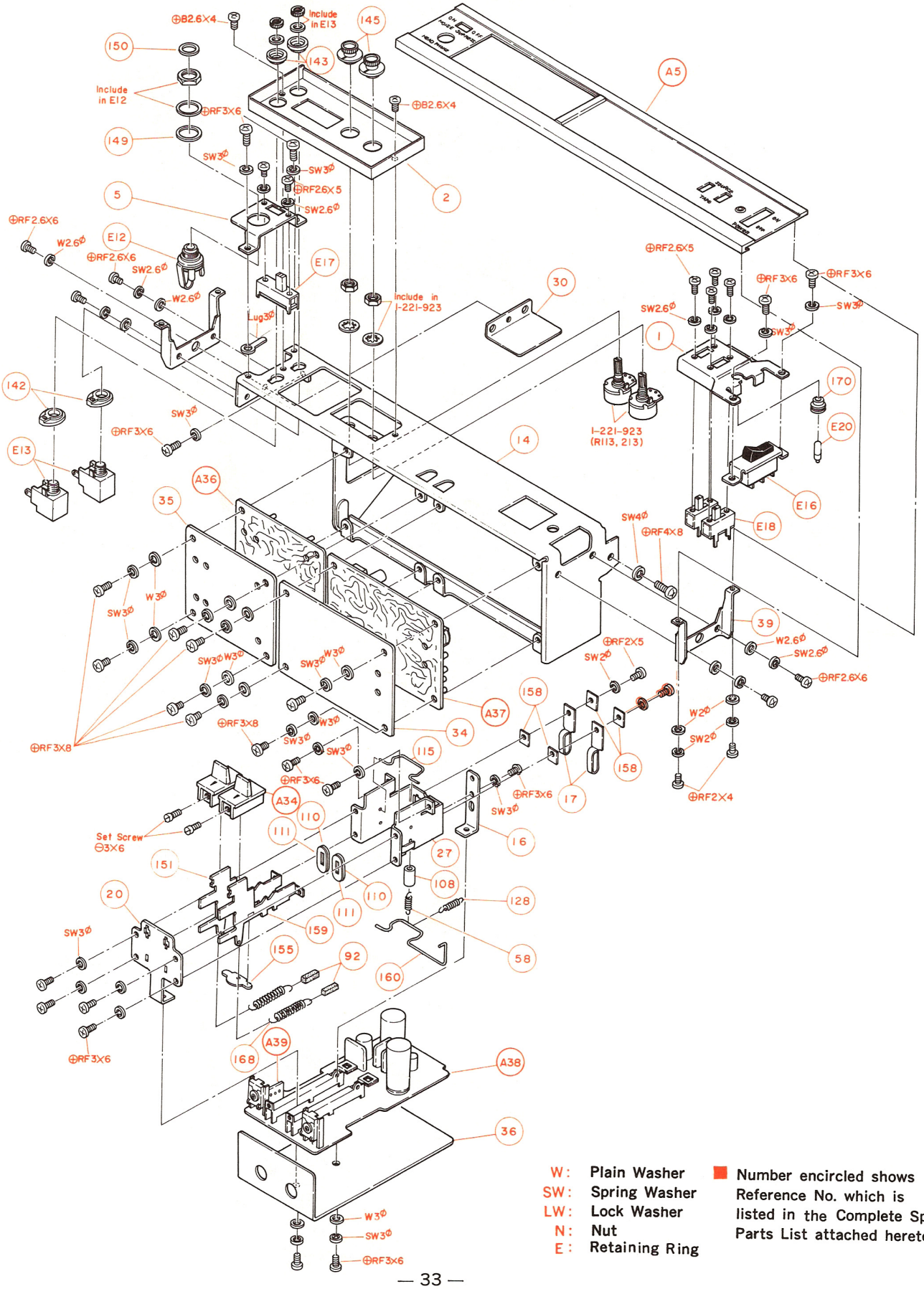


W: Plain Washer
SW: Spring Washer
LW: Lock Washer
N: Nut
E: Retaining Ring

■ Number encircled shows Reference No. which is listed in the Complete Spare Parts List attached hereto.

Exploded Diagram

Front Chassis—Top View

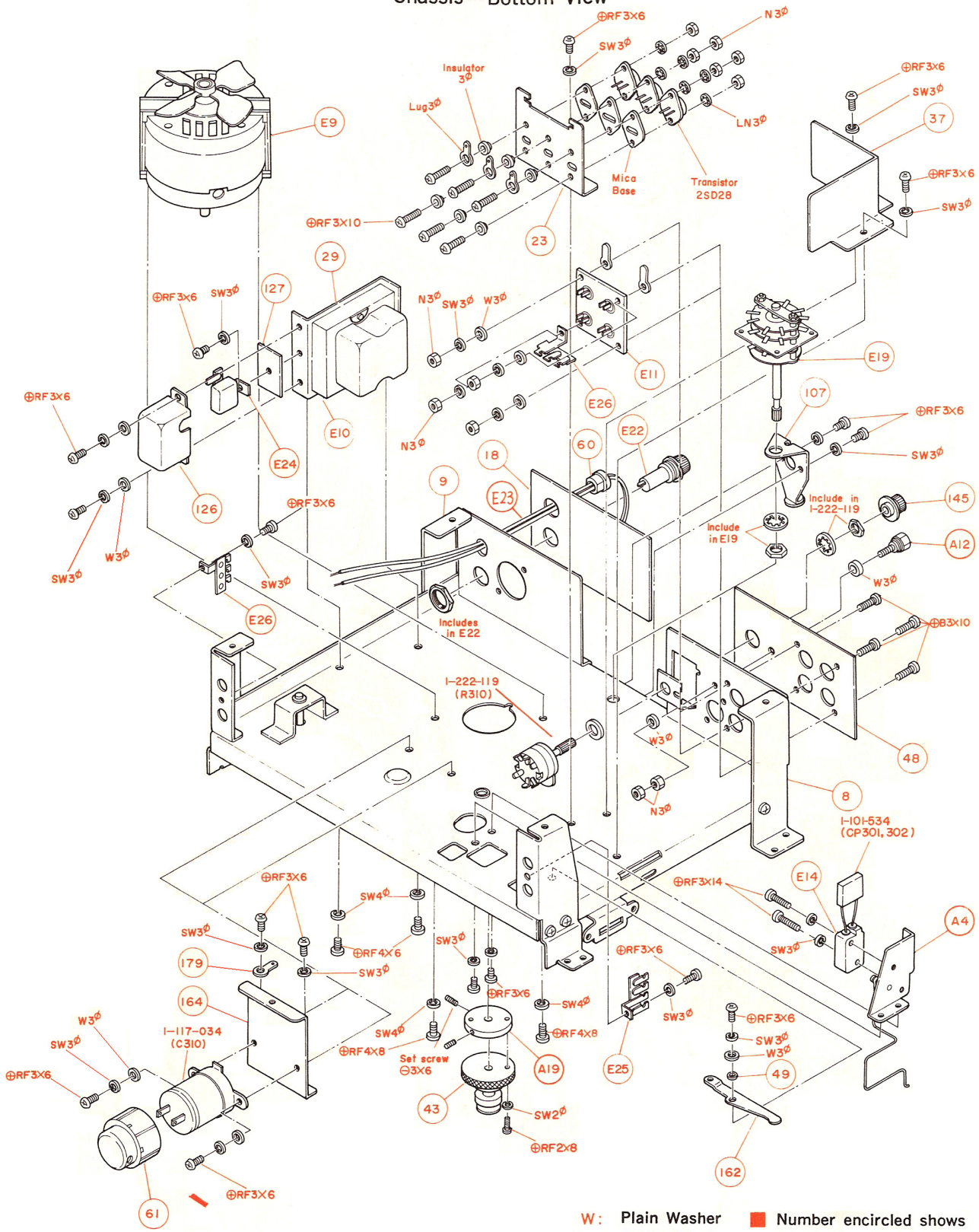


W: Plain Washer
SW: Spring Washer
LW: Lock Washer
N: Nut
E: Retaining Ring

■ Number encircled shows Reference No. which is listed in the Complete Spare Parts List attached hereto.

Exploded Diagram

Chassis — Bottom View



W: Plain Washer
SW: Spring Washer
LW: Lock Washer
N: Nut
E: Retaining Ring

■ Number encircled shows Reference No. which is listed in the Complete Spare Parts List attached hereto.

SONY CORPORATION

g-0 Apr-1968 (UL·CSA)

Printed in Japan

Complete Spare Parts List for TC-355 (UL)

Jan., '68

Ref. No.	Part No.	Description	Q'ty	Unit Price
A1	X-34440-01	Base Plate Ass'y	1	
A2	-02	Reel Panel Ass'y	1	
A3	-03	Complete Cabinet Ass'y	1	
A4	-04	Actuator Ass'y, automatic shut off	1	
A5	-05	Sash Ass'y, front panel	1	
A6	-07	Head Cover Ass'y	1	
A7	-08	Slider Ass'y (C)	1	
A8	-09	Idler Ass'y, rewind	1	
A9	-10	Head Deck Ass'y	1	
A10	-11	Pinch Lever Ass'y	1	
A11	X-00270-03	Idler Ass'y, capstan	1	
A12	X-20319-01	Terminal Strips Ass'y (small type)	1	
A13	X-34180-04	Flywheel Ass'y, capstan shaft	1	
A14	-06	Idler Arm Ass'y, capstan	1	
A15	-08	Lever Ass'y, speed selector	1	
A16	-14	Joint Lever Ass'y, function selector cam & slider	1	
A17	-27	Cam Ass'y, pinch roller up & down	1	
A18	-30	Arm Ass'y, stepper	1	
A19	-33	Mounting Plate Ass'y, motor pulley	1	
A20	X-34250-23	Brake Ass'y, take-up reel table	1	
A21	-24	Brake Ass'y, feed reel table	1	
A22	X-34300-02	Lever Ass'y, capstan idler release	1	
A23	-03	Spring Ass'y, take-up and feed reel table	2	
A24	-09	Knob Ass'y, speed selector	1	
A25	-14	Reel Table Ass'y, take-up	1	
A26	-15	Reel Table Ass'y, feed reel	1	
A27	-25	Idler Ass'y, take-up	1	
A28	-26	Cam Ass'y, function selector	1	
A29	-27	Lever Ass'y, take-up idler	1	
A30	X-34360-15	Lever Ass'y, rewind	1	
A31	-17	Brake Ass'y, instant stop	1	
A32	X-34380-08	Lock Ass'y, stopper	1	
A33	-10	Button Ass'y, fast forward	1	
A34	-11	Button Ass'y, record	2	
A35	-13	Knob Ass'y, function selector	1	
A36	X-34440-51-1	Mounted Circuit Board, record amplifier	1	

Ref. No.	Part No.	Description	Q'ty	Unit Price
A37	X-34440-52-1	Mounted Circuit Board, playback amplifier	1	
A38	-53-1	Mounted Circuit Board, power supply & bias OSC	1	
A39	-54-1	Mounted Circuit Board, dummy coil	1	
1	3-444-017	Bracket, seesaw switch	1	
2	-018	Ornamental Plate, jack	1	
3	-019	Sash (A)	1	
4	-020	Shifter, head pad	1	
5	-021	Bracket, binaural jack	1	
6	-022	Lever, instant stop	1	
7	-023	Lever, instant stop	1	
8	-025	Bracket, jack (A)	1	
9	-026	Bracket, jack (B)	1	
10	-027	Sash B	1	
11	-028	Bracket, head	1	
12	-029	Retainer, pad plate	1	
13	-030	Sash C	1	
14	-031	Chassis, front amplifier	1	
15	-032	Bracket, VU meter holder	1	
16	-033	Bracket, record switch	1	
17	-034	Spring, record switch holder	2	
18	-036	Ornamental Plate, jack B	1	
19	-037	Guide, tape	1	
20	-038	Supporter, record lever	1	
21	-039	Holder, microphone switch	1	
22	-040	Retainer, instant stop brake lever	1	
23	-041	Bracket, power print	1	
24	-042	Cover, switch	3	
25	-043	Nut, sash retainer	4	
26	-044	Tape Guide (lower part)	1	
27	-045	Support, record change-over	1	
28	-046	Helical Spring	1	
29	-047	Holder, transformer	1	
30	-048	Shield Plate	1	
31	-049	Shaft, fast forward idler	1	
32	-050	Clank	1	
33	-051	Washer, rewind idler	1	
34	-052	Shield Paper A	1	
35	-053	" " B	1	
36	-054	" " C	1	

Ref. No.	Part No.	Description	Q'ty	Unit Price
37	3-444-055	Shield Plate B	1	
38	-057	Holder, sash A	1	
39	-058	" , " B	1	
40	-059	Retainer, sash	2	
41	-060	Tension Spring	1	
42	-061	Insulator, terminal strips	1	
43	-063	Motor Pulley 60 c/s	1	
44	-065	Hinge, head pad	1	
45	-071	Cover, jack plate A	1	
46	-072	" , " " B	1	
47	-201	Name Plate, for UL	1	
48	-202	Ornamental Plate A, jack	1	
49	0-027-134	Shaft, stepper	12	
50	-216	Oil Ring (B), 5ϕ	1	
51	3-103-238	Spring, tape guide adjustable	1	
52	3-401-068	Screw, head adjusting	2	
53	3-402-764	Spacer	1	
54	3-403-724	Stopper, rubber foot	4	
55	3-405-407	Washer, drive wheel; thrust	3	
56	3-409-108	Washer, reel panel	2	
57	-124	Washer, nylon (D)	1	
58	-158	Lock Spring	1	
59	-163	Washer, idler; thrust	2	
60	3-410-032	Stopper, cord; small	1	
61	-044	Cap, capacitor	1	
62	3-412-080	Washer, erase head	1	
63	-119	Case, shield A	1	
64	-120	" , " B	1	
65	-121	" , " C	1	
66	3-418-009	Shaft, pinch roller up & down adjustable	1	
67	-011	Joint, pinch lever & shifter	1	
68	-054	Spacer, stepper arm	1	
69	-055	Shaft, lock lever	1	
70	-060	Shaft, idler arm; speed selector lever guide shifter	1	
71	-069	Spring, idler arm	1	
72	-070	Spring, idler arm (horizontal use)	1	
73	-073	Spring, idler arm shaft (vertical use)-	1	
74	-074	Spring, lever (horizontal use)	1	
75	-075	Spring, idler release lever	1	
76	-077	Spring, idler arm shaft (vertical use)-	1	

Ref. No.	Part No.	Description	Q'ty	Unit Price
77	3-418-079	Spring, lever	1	
78	-085	Spacer, function selector cam shaft	1	
79	-086	Spacer, brake lever	1	
80	-091	Spring, lock lever shaft	1	
81	-107	Support, capstan bearing	1	
82	-111	Cap, capstan bearing	1	
83	-112	Oil Ring, capstan bearing	1	
84	-113	Tape Support, right	1	
85	-115	Nylon Washer, 8ϕ (outer diameter) pinch roller	1	
86	-200	Spring, brake A	2	
87	-201	Spring, brake B	1	
88	-208	Belt, rewind idler	1	
89	3-419-070	Sticker, on cabinet bottom	1	
90	-098	Washer; nylon	2	
91	-211	Cap, rewind idler	1	
92	3-420-076	Rubber Form Cushion (noise absorber)	1	
93	3-422-204	Caution Label	1	
94	3-423-130	Rubber Foam Cushion	2	
95	3-424-049	Rubber Foot	4	
96	3-425-185	Shaft	4	
97	3-426-502	Helical Spring	1	
98	3-428-132	Helical Spring	2	
99	3-430-113	Shaft, pinch roller	1	
100	-154	Bracket, speed selector shaft	1	
101	-155	Plate, automatic shut-off actuator switch	1	
102	-156	Spring, pinch lever cam	1	
103	-157	Bracket, recording clank	1	
104	-159	Washer, capstan shaft; black	1	
105	-160	Washer, take-up and feed reel spindle	2	
106	-161	Pulley, tape counter	1	
107	-162	Bracket, speed equalizer switch	1	
108	-170	Spacer, lock lever	1	
109	-198	Cap, idler	1	
110	-199	Washer, recording button; black	2	
111	-200	Washer, recording button; black	2	
112	-201	Shaft, function selector	1	
113	-203	Shaft, head cover	2	
114	-206	Cap, take-up and supply reel spindle	2	
115	-212	Rod, record locking	2	
116	-223	Lever, joint supply and take-up reel brake arm	2	

Ref. No.	Part No.	Description	Q'ty	Unit Price
117	3-430-227	Cam, fast forward; lever	1	
118	-231	Oil Ring, pinch roller	1	
119	-232	Cap, pinch roller	1	
120	-233	Roller, pinch	1	
121	-234	Washer, pinch roller; mylar	1	
122	-235	Spacer, pinch roller; metal	1	
123	-237	Retainer, capstan shaft	1	
124	-238	Spring, capstan shaft	1	
125	-239	Spring, supply reel brake	1	
126	3-431-203	Cap, terminal	1	
127	-204	Insulator, terminal; fiber	1	
128	3-432-152	Helical Spring	1	
129	3-436-067	Brake, S2	1	
130	-068	" , T2	1	
131	-069	" , S3	1	
132	-070	" , T3	1	
133	-071	Spring, rewind	1	
134	-072	Joint Lever, feed reel	1	
135	-073	" " , take-up	1	
136	-075	Helical Spring	2	
137	-076	Helical Spring	2	
138	-122	Plate, head shield	1	
139	3-437-170	Roller, joint	1	
140	-171	Retainer, roller shaft	2	
141	-185	Screw, slider adjustable	2	
142	-228	Insulator (A), miniature jack	5	
143	-229	" (B), " "	3	
144	-271	Knob, instant stop	1	
145	-275	Knob, volume control (S)	4	
146	-306	Tape Guide (B)	4	
147	-307	" " (C)	4	
148	-309	Retainer, tape guide (A)	4	
149	-423	Washer, insulator	1	
150	-436	Insulating Washer, binaural jack	1	
151	3-438-028	Lever, record (A)	1	
152	-030	Leg, plate (left)	1	
153	-031	Leg, plate (right)	1	
154	-033	Bracket, tape index counter	1	
155	-037	Bracket, leaf switch	1	
156	-038	Bracket, instant stop shifter (A)	1	
157	-039	" , " " " (B)	1	
158	-040	Retainer, plate spring	4	

Ref. No.	Part No.	Description	Q'ty	Unit Price
159	3-438-041	Lever, record (B)	1	
160	-044	Lock Lever, clank	1	
161	-046	Pull Rod, lock plate	1	
162	-047	Bracket, instant stop lock	1	
163	-048	Bracket, instant stop shifter (C)	1	
164	-050	Holder, capacitor	1	
165	-053	Belt, tape index counter	1	
166	-054	Collar, instant stop	1	
167	-077	Cushion, shifter plate	1	
168	-080	Helical Spring	2	
169	-058	Bracket, roller holder	1	
170	3-442-022	Retainer, pilot lamp	3	
171	-030	Helical Spring	1	
172	3-701-030	Self Label	1	
173	Y-20410-11-3	Tape Index Counter XI Type	1	
	3-790-255-21	Instruction Manual	1	
	3-793-010	Tape Talk	1	
	-030	Booklet, SONY tape	1	
	-044-21	Important, carton	1	
	3-796-111	Card, inspection	1	
	3-103-191	Polyethylene Bag, accessories	1	
	3-701-020	Bag, check sheet	1	
	-031	Envelope, I.B.M. card	1	
	-034	Card, quality control	1	
	-035	Card, warranty	1	
	3-430-229-03	Reel Cap, C	2	
	X-37010-08	Head Cleaning Ribbon	1	
	8-860-107	Reel, R-7A	1	
	1-534-049	Connection Cord RK-56	2	
	3-444-066-01	Dust Cover, DP-355	1	
	-067-11	Carton	1	
	-068-	Cushion, side	2	
	-069	" , upper	1	
	-070	Polyethylene Bag, dust cover	1	
	3-442-027	Polyethylene Bag, set	1	
174	0-041-041	Washer, reel panel; white	1	
175	-129	Pad, erase, playback and record head	3	
176	0-056-322	Oil Ring (B) white	1	
177	0-027-473	Pad, (B)	1	
178	0-051-235	Wire Retainer	1	
179	3-401-179	Lug, wire retainer	2	
180	-482	Washer	1	

Ref. No.	Part No.	Description		Q'ty	Unit Price
Electrical Parts					
		Transistor 2SC632	X101,201,102, 202,205,206, 105,106 ------	8	
		" 2SC634	X207,107,108, 109,103,104, 208,209,210, 211,110,111, 203,204,304, 305 ----------	16	
		" 2SD28	X301,302,303 --	3	
		Diode 1T22	D101,201 ------	2	
		" 1T263	D301 ----------	1	
		" FR-1P	D302,303 ------	2	
E1	1-427-217	Output Transformer	T101,201 ------	2	
E2	1-407-198	Micro Inductor 2.2mH	L301,302 ------	2	
E3	-342	Coil, dummy	L103,203 ------	2	
E4	1-433-122	Oscillator Transformer	T302 ----------	1	
E5	1-513-231	Switch, slide	S104,204 ------	2	
E6	8-824-129-20	Record Head RP30-29-2 ----------		1	
E7	8-821-229-01	Playback Head PP30-2902A ----------		1	
E8	8-826-629-23	Erase Head EF18-2902H2 ----------		1	
E9	8-832-624-09	Motor 1C-624H1 ----------		1	
E10	1-441-386	Power Transformer	T301 ----------	1	
E11	1-507-163	4P Jack	J201,203,101, 103 ----------	1	
E12	-187	Jack, binaural USA Type	J301 ----------	1	
E13	-188	Jack, microphone	J102,202 ------	2	
E14	1-514-039	Micro Switch	S304 ----------	1	
E15	-057	" "	S303 ----------	1	
E16	-306	Switch, seesaw	S305 ----------	1	
E17	-324	Switch, slide	S103,203 ------	1	
E18	-415	Slide Switch, reed	S102,202 ------	2	
E19	-416	Switch, rotary	S101,201,302 --	1	
E20	1-518-082	Pilot Lamp	PL301,101,201 -	3	
E21	1-524-050	Level Meter, stereo	ME101,102 -----	1	
E22	1-533-048	Fuse Holder ----------		1	
E23	1-534-330	Cord, power supply ----------		1	
E24	1-536-146	Terminal Strips, A type	1L1 ----------	1	
E25	-147	" " , "	1L2 ----------	1	

Ref. No.	Part No.	Description	Q'ty	Unit Price
E26	1-536-149	Terminal Strips, A type 2L ----------	2	
E27	1-538-785-11	Printed Circuit Board, record amp -----	1	
E28	-784-11	" " " , playback amp ---	1	
E29	-783-11	" " " , power supply & bias OSC -------	1	
E30	-782-11	" " " , sub chassis ----	1	

Capacitor, mylar

1-106-058, 1-105-661)	0.001uF	50WV	±10%	C244,245,144, 145 ----------	4
1-106-082, 1-105-673)	0.01uF	"	"	C119,219 ------	2
1-106-084, 1-105-674)	0.012uF	"	"	C118,218 ------	2
1-106-092, 1-105-678)	0.027uF	"	"	C111,211 ------	2
1-106-102, 1-105-683)	0.068uF	"	"	C112,212 ------	2
1-106-110, 1-105-687)	0.15uF	"	"	C113,213 ------	2
1-106-058, 1-105-661)	0.001uF	"	"	C223,234,133, 134 ----------	4
1-106-070, 1-105-667)	0.0033uF	"	"	C232,228,132, 128 ----------	4
1-106-094, 1-105-679)	0.033uF	"	"	C124,224 ------	2
1-105-845	0.1uF	"	±20%	C314 ----------	1

Capacitor, silvered mica

1-107-054	33PF	500WV	±10%	C103,203,121, 221 ----------	4
-056	56PF	"	"	C114,214 ------	2
-221	560PF	1500WV	"	C303 ----------	1
-004	100PF	500WV	"	C313,311,312 143,243 ------	5
-035	560PF	"	"	C302 ----------	1

Ref. No.	Part No.	Description				Q'ty	Unit Price
		Capacitor, electrolytic					
	1-121-279	1uF	25WV		C109, 209 -----	2	
	-463 -360	5uF	15WV		C116,216 ------	2	
	-470 -282	10uF	12WV		C205,206,106, 201,202,101, 102,105 ------	8	
	-481 -321	30uF	3WV		C110,210 ------	2	
	-486 -287	50uF	3WV		C207,215,107, 115 ----------	4	
	-289	50uF	25WV	(+150% -10%	C304 ----------	1	
	-290	100uF	3WV		C104,204 ------	2	
	-440 -279	1uF	25WV	(+200% -10%	C229,239,141, 241,230,129, 130,139 ------	8	
	-463 -360	5uF	15WV	(+150% -10%	C137,237 ------	2	
	-470 -282	10uF	12WV	"	C122,222 ------	2	
	-472 -283	10uF	25WV	"	C226,240,126, 140 ----------	4	
	-481 -321	30uF	3WV	"	C123,223 ------	2	
	-483 -349	30uF	10WV	"	C125,225 ------	2	
	-486 -287	50uF	3WV	"	C236,238,136, 138 ----------	4	
	-357	100uF	35WV	"	C131,231 ------	2	
	-474 -348	10uF	50WV	"	C308 ----------	1	
	-289	50uF	25WV		C108, 208 ------	1	
	-388	1000uF	35WV	"	C307,309 ------	2	
		Resistor, carbon					
	1-242-653	150 ohms	±10%	RD¼UR, ELR¼	R160,260 -	2	
	-665	470 "	±5%	"	R120,220 -	2	

Ref. No.	Part No.	Description	Q'ty	Unit Price
	1-242-669	680 ohms ±5% RD¼UR, ELR¼	R207,107,123, 223 ------ 4	
	-681	2.2K " " "	R125,225 -- 2	
	-681	2.2K " ±10% "	R115,215 -- 2	
	-683	2.7K " " "	R112,212 -- 2	
	-685	3.3K " ±5% RD¼UR	R108,208 -- 2	
	-685	3.3K " " RD¼UR, ELR¼	R119,219 -- 2	
	-691	5.6K " " "	R124,224 -- 2	
	-695	8.2K " " "	R126,226 -- 2	
	-697	10K " " RD¼UR	R104,204 -- 2	
	-705	22K " " RD¼UR, ELR¼	R122,222 -- 2	
	-705	22K " ±10% "	R111,211 -- 2	
	-712	43K " ±5% RD¼UR	R117,217 -- 2	
	-713	47K " " "	R205,206,203, 106,103,105 -- 6	
	-713	47K " " RD¼UR, ELR¼	R109,209,121, 221 ------ 4	
	-717	68K " " RD¼UR	R110,210 -- 2	
	-717	68K " " RD¼UR, ELR¼	R118,218 -- 2	
	-737	470K " " RD¼UR	R116,216 -- 2	
	-649	100 " " RD¼UR, ELR¼	R129,229 -- 2	
	-657	220 " " "	R144,244 -- 2	
	-665	470 " " "	R152,252 -- 2	
	-669	680 " " "	R154,254 -- 2	
	-673	1K " " "	R138,238 -- 2	
	-681	2.2K " " "	R158,258 -- 2	
	-683	2.7K " " "	R150,250 -- 2	
	-685	3.3K " " "	R163,263 -- 2	
	-692	6.2K " " "	R155,255 -- 2	
	-693	6.8K " ±10% "	R139,239 -- 2	
	-697	10K " ±5% "	R131,231 -- 2	
	-699	12K " " "	R245,246,145, 146 ------ 4	
	-701	15K " ±10% "	R134,234 -- 2	
	-705	22K " " "	R133,233 -- 2	
	-705	22K " ±5% "	R153,253 -- 2	
	-707	27K " " RD¼UR	R148,248 -- 2	
	-709	33K " " RD¼UR, ELR¼	R156,256 -- 2	
	-713	47K " " "	R243,251,143, 151 ------ 4	
	-719	82K " " RD¼UR	R128,228 -- 2	

Ref. No.	Part No.	Description	Q'ty	Unit Price
	1-242-723	120K ohms ±5% RD¼UR, ELR¼	R149,249 -- 2	
	-725	150K " " "	R135,235 -- 2	
	-733	330K " " "	R130,230 -- 2	
	-735	390K " " RD¼UR	R132,232,147, 247 ------ 4	
	-737	470K " " RD¼UR, ELR¼	R141,142,157, 262,242,257, 261,161,162, 241 ------ 10	
	-747	1.2M " " RD¼UR	R127,227 -- 2	
	-625	10 " " RD¼UR, ELR¼	R312 ------ 1	
	-633	22 " " "	R301 ------ 1	
	-641	47 " " "	R304 ------ 1	
	-699	12K " " "	R302,303 -- 2	
	-713	47K " " "	R307 ------ 1	
	-719	82K " " "	R306 ------ 1	
	-721	100K " " "	R308 ------ 1	
	-667	560 " " "	R102,202 -- 2	
	-697	10K " ±10% "	R311 ------ 1	
	-713	47K " ±5% "	R309 ------ 1	
	-721	100K " " "	R101,201 -- 2	
	Capacitor, polyethylene			
	1-129-117	270PF 50WV ±10%	C135,235 -- 2	
	-141	0.0027uF " "	C305,306 -- 2	
	Encapsulated Component			
	1-101-534	0.1uF + 120 ohms	CP301,302 -------- 2	
	Capacitor, trimmer (patting type)			
	1-141-076	30 - 200PF	C142,242 --------- 2	
	Variable Resistor			
	1-221-923	200K ohms	R113,213 --------- 2	
	1-222-119	200K ohms	R310, S301 ------- 1	
	Capacitor polystyrol			
	1-103-675	1000PF 50WV ±10%	C301 ------------ 1	

Part No.	Description	Q'ty	Unit Price
	Screws, Washers & Others		
7-621-255-25	Screw (+) RF 2 x 4	5	
-35	" (+) RF 2 x 5	4	
-55	" (+) RF 2 x 8	3	
-259-12	" (+) RF 2.6 x 3	4	
-32	" (+) RF 2.6 x 5	6	
-35	" (+) RF 2.6 x 5	3	
-45	" (+) RF 2.6 x 6	4	
-261-32	" (+) RF 3 x 5	2	
-35	" (+) RF 3 x 5	3	
-45	" (+) RF 3 x 6	1	
-65	" (+) RF 3 x 10	2	
-62	" (+) RF 3 x 10	6	
-75	" (+) RF 3 x 12	1	
-85	" (+) RF 3 x 14	4	
-268-45	" (+) RF 4 x 6	7	
-55	" (+) RF 4 x 8	14	
-75	" (+) RF 4 x 12	4	
-269-35	" (+) RF 4 x 22	4	
7-628-251-25	" (+) RF 3 x 6 (w/Spring Washer)	65	
-35	" (+) RF 3 x 8 (")	8	
7-621-559-42	" (+) K 2.6 x 6	4	
-55	" (+) K 2.6 x 8	4	
-510-32	" (-) K 2.6 x 22	1	
-770-36	" (+) B 2.6 x 4	2	
-52	" (+) B 2.6 x 12	1	
-76	" (+) B 3 x 4	1	
-22	" (+) B 3 x 6	1	
-49	" (+) B 3 x 6	2	
-40	" (+) B 3 x 10	4	
-468-65	" (+) T 4 x 10	1	
-710-46	Push Screw (-) 2 x 5	2	
-712-56	" (-) 2.6 x 6	2	
7-623-105-12	Washer 2ø	4	
-107-02	" 2.6ø (small)	4	
-12	" 2.6ø	8	
-108-12	" 3ø	34	
-110-02	" 4ø (small)	1	
-12	" 4ø	2	
-112-12	" 5ø	1	
-18	" 5ø t=0.4	2	

Part No.	Description	Q'ty	Unit Price
7-623-205-22	Spring Washer, 2ø	12	
-207-22	" " , 2.6ø	15	
-208-22	" " , 3ø	17	
-210-22	" " , 4ø	22	
-308-05	Star Washer, 3ø (inner)	2	
-408-05	" " , 3ø (outer)	7	
7-622-107-02	Nut 2.6ø	4	
-108-02	" 3ø	18	
-110-02	" 4ø	1	
7-623-508-01	Lug 3ø	9	
-510-01	" 4ø	1	
7-624-106-01	Retaining Ring E-3	3	
-108-01	" " E-4	9	
-109-01	" " E-5	4	